



2016-17 COLLEGE CATALOG





Mailing Address:

1961 Delta Road
University Center MI 48710

Telephone:

(989) 686-9000
(989) 495-4010 Midland Center
(989) 667-2260 Planetarium and Learning Center
(989) 752-7500 Saginaw Center

FAX:

(989) 686-8736

email:

info@delta.edu

Website:

www.delta.edu

Online Catalog:

www.delta.edu/catalog

24 Hour Weather Information:

(989) 686-9179

Delta College personnel made every reasonable effort to determine that everything stated in this catalog was accurate at the time it was printed. Courses and programs offered, tuition and fees, services, and the academic calendar, together with other matters contained herein, are subject to change without notice by Delta College for reasons related to student enrollment, level of financial support, or for any other reason, at the discretion of the College. Delta College further reserves the right to add, amend, or repeal any of their rules, guidelines, policies and procedures. Although the provisions of this catalog are not to be regarded as a legal contract, students enrolled at Delta College are responsible for all regulations in this catalog as well as additions or changes to regulations as they are posted or printed in other College publications.

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Welcome to Delta College

It was our aim, as we prepared this catalog, to provide you with a tool that will be of help to you throughout the time you spend with us at Delta College pursuing your educational goals. We hope you will find it useful, whether you are a new student, a returning student, or a member of the community involved in our various outreach activities.

This Table of Contents tells you what is covered in each section of this catalog. If you are looking for a specific topic, check the Index on page 462. If you come across a term you don't understand, check page 454 for Definitions of College Terms.

If you can't find information important to you or you find something confusing, stop by or call the Registrar's Office, (B100) or visit www.delta.edu. The Registrar's Office staff will be able to clarify information or direct you to the appropriate staff person for an answer, and they will pass on to us anything you think should be added to or changed in this catalog.

Section I

Welcome



Welcome



Delta College - one of America's leading community colleges - promotes academic excellence, and is known for exemplary programs, technological innovation, community leadership and graduates who make a difference.

You will find a personalized learning experience unlike any other. Delta's talented and dedicated faculty and staff will help cultivate your individual talents and potential - all within a state-of-the-art learning environment.

We are proud of the fact that this institution is important to the economic well being of the community. About 97 percent of Delta graduates from the last five years stay in Michigan, and 80 percent reside in the Great Lakes Bay Region, fueling our economy. Delta graduates are everywhere. Nurses, teachers, doctors, skilled trades people, business leaders - people just like you - who came to Delta with a dream to succeed in life.

In addition to our top-quality academic programs, Delta College offers other learning opportunities through Quality Public Broadcasting, the Planetarium, Corporate Services and LifeLong Learning. Please take advantage of all we have to offer.

I trust you will enjoy your Delta experience. And on behalf of our Board of Trustees, faculty, staff and administration, welcome to Delta College.

Dr. Jean Goodnow
President



Mission Statement

Delta College serves our Great Lakes Bay Region by educating, enriching, and empowering our diverse community of learners to achieve their personal, professional, and academic goals.

The College Mission reflects our Values.

Values Statement

Delta College is a diverse learning-centered community based on integrity and respect. From a foundation of leadership, we use innovation and teamwork to achieve excellence.

Diversity: We actively promote, advocate, respect, and value differences. We foster a welcoming environment of openness and appreciation for all.

Integrity: We are committed to honesty, ethical conduct, and responsibility.

Respect: We stand for trust, caring, loyalty, and academic freedom.

Excellence: We support outstanding achievement in our students, employees and communities. We have a passion for quality and strive for continuous improvement.

Leadership: We create and communicate inspirational visions for results. We are accountable to our communities.

Innovation: We rejoice in creative change. We are flexible, agile, and risk-taking.

Teamwork: We foster communication and collaboration across boundaries and support shared governance.

Learning-centered community: We are an engaging, inclusive, diverse learning organization. We focus on academic excellence, civic responsibility and community leadership.

Guiding Principles

The implementation of our College Mission and its underlying Values are supported by certain Guiding Principles.

Based on our Mission and Values Statement, Delta College is committed to:

- providing a range of programs, opportunities, and experiences that enrich the lives of the residents of our community
- continuously improving and regularly measuring the quality of all of our programs and services
- accepting the challenge of our open door policy by providing programs and services appropriate to our students' needs and backgrounds
- providing services to help students overcome obstacles that impede the achievement of their educational goals
- working with K-12 districts, other colleges and universities, and business and industry to share and respond to each others' needs
- creating an environment that fosters appreciation and respect for the uniqueness of each individual
- expanding our students' cultural and global awareness
- the free exchange of all ideas for their own sake as well as for their potentially practical applications
- providing a work environment which supports the professional development of all College employees
- shared governance, understanding that we are all members of the same College community with the privilege of ownership and the obligation of participation
- employee involvement in the community.
- promoting learning, actions and practices that incorporate social, environmental, and economic sustainability in our communities.

Our Vision For Delta College

Delta College is our communities' first choice to learn, work, and grow. should contact the Office of the Vice President of Instruction and Learning Services, Office B131, phone: (989) 686-9298.



Accreditation

Delta College is accredited by The Higher Learning Commission

230 South LaSalle Street, Suite 7-500
Chicago, Illinois 60604
800-621-7440

Accrediting/Approving Agencies

Automotive Service Educational Program (GM ASEP): National Automotive Technicians, Education Foundation (NATEF), 101 Blue Seal Drive, SE Suite 101, Leesburg, Virginia 20175, (703) 669-6650 Fax: (703) 669-6125

Automotive Service Technology National Automotive Technicians Education Foundation (NATEF) 101 Blue Seal Drive, SE, Suite 101 · Leesburg, VA 20175 (703) 669-6650 Fax: (703) 669-6125

Certified Nursing Assistant: Michigan League of Nursing, Ottawa Building, P.O. Box 30670, Lansing, MI 48909-8170, (517) 335-0918 Michigan Department of Licensing and Regulatory Affairs (LARA) Bureau of Community and Health Systems Health Facilities Division 611 Ottawa Street, P.O. Box 30664 Lansing, Michigan 48909

Child Development: National Association for the Education of Young Children (NAEYC) 1313 L. Street NW, Suite 500, Washington, DC 20005-4101, (202) 232-8777 or www.naeyc.org

Criminal Justice: Michigan Commission on Law Enforcement Standards (MCOLES), 106 W. Allegan, Suite 600, PO Box 30633, Lansing, Michigan 48909, (517) 322-1417

Dental Assisting and Dental Hygiene: , Commission on Dental Accreditation (CODA), 211 East Chicago Avenue, Chicago, Illinois 60611-2678, (312) 440-2500, American Dental Association

Diagnostic Medical Sonography: Diagnostic Medical Sonography: Commission on Accreditation of Allied Health Education Programs (CAAHEP), 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL, 33763; ph: 727-210-2350; fx: 727-210-2354; www.caahep.org

Health Fitness Specialist: National Strength and Conditioning Association, 1885 Bob Johnson Drive, Colorado Springs, CO 80905, (800) 815-6826

Physical Therapy Assistant: Commission on Accreditation in Physical Therapy Education (CAPTE) 111 North Fairfax Street, Alexandria, Virginia 22314, (703) 706-3245, accreditation@apta.org, <http://www.captionline.org>; American Physical Therapy Assoc. www.apta.org

PN Nursing: Michigan League of Nursing, Ottawa Building, P.O. Box 30670, Lansing, MI 48909-8170, (517) 335-0918

Radiology: Joint Review Committee on Education in Radiologic Technology, 20 N. Wacker Drive, Suite 2850, Chicago, Illinois 60606-3182, (312) 704-5300

Respiratory Care: Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Rd., Bedford, TX 76021-4244, (817) 283-2835

RN Nursing: Michigan League of Nursing, Ottawa Building, P.O. Box 30670, Lansing, MI 48909-8170; (517) 335-0918, Accreditation Commission for Education in Nursing, 3343 Peachtree Rd NE., Suite 850, Atlanta, GA 30326, (404) 975-5000

Surgical Technology: Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA), Commission on Accreditation of Allied Health Education Programs (CAAHEP), 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL, 33763; ph: 727-210-2350; fx: 727-210-2354; www.caahep.org

Water Environmental Technology: MDEQ-Office of Drinking Water and Municipal Assistance (ODWMA), Advisory Board of Examiners (ABE) for Drinking Water, Constitution Hall, 525 W. Allegan St., PO Box 30473, Lansing, MI 48909-7973; (517)-284-5431 (WRD) Board of Certification (for Municipal Wastewater) Constitution Hall 525 W. Allegan St. P.O. Box 30241, Lansing, MI 48909-7973;(517)-284-5567. MDEQ-Water Resources Division

Division (WRD) Board of Certification (for Municipal Wastewater), Constitution Hall, 525 W. Allegan St., PO Box 30241, Lansing, MI 48909-7973, (517) 284-5567

Students wishing to review documents pertaining to accreditation should contact the office as the Vice President of Instruction and Learning Services, office, B131, Phone: (989) 686-9298.

Membership



College Memberships

Accreditation Commission for Education in Nursing
Advocates for Latino Student Advancement in Michigan Education, (ALSAME)
American Association of Collegiate Registrars and Admissions Officers, (AACRAO)
American Association of Community Colleges, (AACC)
American Association of University Women, (AAUW)
American Collegiate Hockey Association
American Council of International/Intercultural Education (ACIIE)
American Council on Education (ACE)
American Heartland Intercollegiate Bowling Conference, (AHIBC)
American Math Association for Two -Year Colleges
American Purchasing Society, (APS)
Association for the Advancement of Sustainability of Higher Education, (AASHE)
Association of College and University President's Climate Commitment (ACUPCC)
Association of Community College Trustees, (ACCT)
Association on Higher Education and Disability, (AHEAD)
American Solar Energy Society, (ASES)
Bay Area Chamber of Commerce
Bay Future, Inc.
Bay Home Builders Association
Break Away Chapter Programs
College and University Professional Association for Human Resources, (CUPA-HR)
Community Colleges for International Development, (CCID)
Continuous Quality Improvement Network, (CQIN)
Council for Advancement and Support of Education, (CASE)
Council for Resource Development, (CRD)
Council of Chambers and Business Organizations, (CCBO)
Disability Network of Mid-Michigan
Downtown Saginaw Association
Educational Technology Organization of Michigan (ETOM)
Government Finance Officers Association
Great Lakes Bay Economic Club, (GLBEC)
Great Lakes Bay Regional Alliance
Great Lakes Business Leadership Network
Great Lakes Safety Training Center, (GLSTC)
Health Physics Society, (HPS)
Higher Learning Commission Academic Quality Improvement Process, (AQIP)
Institute of Continuing Legal Education Partnership, (ICLE)
Institute of International Education, (IIE)
Instructional Technology Council, (ITC)
International Association of General Motors Automotive Service Educational Programs, (IAGMASEP)
International Association of Marketing Students, (DECA)
League for Innovation in the Community College
Michigan Association of Collegiate Registrars and Admissions Officers, (MACRAO)
Michigan Association of Student Financial Services & Administrators, (MASFSA)
Michigan Campus Compact, (MCC)
Michigan Community College Business Officers Association (MCCBOA)
Michigan Community College Association, (MCCA)
Michigan Community College Athletic Association, (MCCAA)
Michigan Community College Biologists, (MCCB)
Michigan Community College Human Resource Association, (MCCHRA)
Michigan Community Colleges Chief Academic Officers, (MSSSAO)
Michigan League for Nursing, (MLN)
Michigan Liberal Arts Deans, (MLAD)

Michigan Library Association, (MLA)
Michigan Occupational Deans' Administrative Council, (MODAC)
Michigan Press Association, (MPA)
Michigan Public Purchasing Officers Association, (MPPOA)
Michigan Regional Skills Alliance, (MiRSA)
Midland Chamber of Commerce
Midland Tomorrow
Midwest Association of Student Employment Administrators, (MASEA)
National Association of College and Auxiliary, (NACAS)
National Association of College and University Attorneys, (NACUA)
National Association of College and University Business Officers, (NACUBO)
National Association of College Stores, (NACS)
National Association of Colleges and Employers, (NACE)
National Association of Developmental Education, (NADE)
National Association of Educational Procurement, (NAEP)
National Association of Foreign Student Advisors, (NAFSA)
National Association of Student Financial Aid Administrators, (NASFAA)
National Association of Veteran's Program Administrators (NAVPA)
National College Testing Association, (NCTA)
National Collegiate Honors Council, (NCHC)
National Junior College Athletic Association, (NJCAA)
Organization for Safety and Asepsis Procedures, (OSAP)
Phi Theta Kappa Honor Society
Saginaw Chamber of Commerce
Saginaw County Business & Education Partnership
Saginaw County Chamber of Commerce
Saginaw Valley Torch Club
Service Members Opportunity Colleges, Consortium (for Veterans) (SOC)
Society for Human Resource Management, (SHRM)
Society of College and University Planning, (SCUP)
U.S. Green Building Council, (USGBC)
World Future Society

Non-Discrimination Statement

Delta College embraces equal opportunity as a core value: we actively promote, advocate, respect and value differences, and we foster a welcoming environment of openness and appreciation for all. Delta prohibits discrimination in accordance with, and as defined by, applicable federal, state, and local law, particularly non-discrimination in employment, education, public accommodation, or public service on the basis of age, arrest record, color, disability, ethnicity, familial status, gender identity, genetic information, height, marital status, national origin, race, religion, sex, sexual orientation, veteran status, and weight. Direct inquiries to the Equity/Compliance Officer: 989-686-9547 or at equityoffice@delta.edu.



Profile of Our Students

Diversity as a Core Principle/Equal Opportunity

2.005 EQUAL OPPORTUNITY

Equal Opportunity Statement

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II. The College will take action to expand equality of opportunity in employment. The College will develop and maintain educational programs and services that meet the needs of underrepresented minority groups, women, persons with disabilities, and others who have been and/or are currently being discriminated against in our society. The College will also initiate programs that will increase, on the part of all personnel, awareness of, and sensitivity to, the interests and needs of these populations.

III. All employees of the College have access to a Grievance Procedure for Equal Opportunity/Equity Concerns for any case involving possible discrimination. Copies of the policy are available from the Human Resources Office. All members of the Senate Assembly also have access to the Senate Grievance Procedure. They may file under either policy but not both. Procedure guidelines for the Senate Grievance Procedure are included in the student handbook.

Direct inquiries to the Equity Compliance Officer, Delta College, 1961 Delta Road, Office J101, University Center, MI 48710, telephone 989-686-9547, or email equityoffice@delta.edu.

See Equity Website - Grievance/Complaint Procedure for Equal Opportunities/Equity Concerns

If this equal opportunity statement is used in an abbreviated form in a college publication, the parenthetical sentence "(See <http://www.delta.edu/equity.aspx> for details.)" will be added to it at the end.

Board Action 5036 – December 10, 2013

Board Action 4614 – May 8, 2007

Board Action 4523 – September 11, 2001

Board Action 1494 – February 14, 1977

Profile of Student Population

The diversity of students at Delta College:

Class Designation

Freshmen.....	64.50%
Sophomores.....	35.50%

Student Age Distribution

19 years old and under.....	35.70 %
20-24	33.10%
25-29	12.00%
30-44	14.60 %
45 and over.....	4.60%

Gender

Females.....	54.40%
Males	45.60%

Geographic Residences

Saginaw County.....	41.20%
Bay County.....	26.30%
Midland County.....	16.80%
Other Michigan Counties.....	15.60%
Out of State.....	0.01%

Ethnic Backgrounds

Caucasian.....	81.00%
African-American.....	7.90%
Hispanic.....	6.40%
Not designated.....	1.3%
Multi-racial.....	1.60%
Asian	0.9%
Native American.....	0.70%
International.....	0.02%

Attendance Distribution

Full-Time.....	37.00%
Part-Time.....	63.00%
Average Cr. Hr. Load.....	9.00

Student Types

Dual Enrolled.....	7.30%
First time in any College	17.40%
Guest	1.1%
Middle College.....	1.60%
Returning.....	50.80%
Transfer-Returning.....	17.80%
Transfer In-New Delta.....	4.00%

Figures based on Fall Semester 2015 (*pertains only to students enrolled in academic courses*).

Section II

Enrollment



Academic Calendar 2016-2017

The following information is to guide you in planning for the upcoming academic year. Dates are subject to change at the College's discretion, please consult this calendar frequently for any changes. The following is arranged by section topics to allow you specific topic planning guidance.

Section I: Academic Calendar

Activity/Deadline	Fall - 2016	Winter - 2017	Spring - 2017	Fall - 2017
Applying for Financial Aid	Apply 6 to 8 weeks prior to the term in which you intend to enroll.			
Admission	Continuous			
Residency Status Change (1)	May 27	October 7	February 8	May 26
Academic Classes Available on My Delta	Early February	Early February	Late September	Late January
Priority Registration Begins (2)	April 12	October 25	March 14	April 11
Payment Deadline	July 26	December 6	April 4	July 25
Weekend Classes Begin (3)	August 27	January 7	May 8	August 26
First Day of Semester (3)	August 27	January 7	May 8	August 26
Add Without Instructor Permission (5)	Before Course Begins			
Offset (3)	25th Calendar Day from Start Date of course			
100% Refund (3)	7th Calendar Day from Start Date of course			
50% Refund (3)	8th through 11th Calendar Day from Start Date of course			
Audit (3,4)	Last Day of 50% Refund Period of course			
Drop/No Grade (3,4)	Last Day of 50% Refund Period of course			
Last Day to Apply for Graduation	Three months before your expected graduation date			
Pass/No Credit (3,4)	Through four-fifths (80%) of the course			
Drop/ "W", "WI" (3,4)	Through four-fifths (80%) of the course			
Incomplete Request Deadline (4)	April 1	December 1	December 1	April 1
Validation Applications (2)	During Last Semester Before Validating			
Holidays: No Classes	September 3-6 November 23-26	March 6-11 April 16	May 29 July 3-4	September 2-5 November 22-26
Last Day of Semester (3)	December 17	April 28	August 17	December 17
Grades Due	December 20	May 2	August 22	December 19

NOTATIONS

- (1) Residency petition must be submitted prior to the beginning of the semester. Refer to residency policy in this section.
- (2) Dates subject to change. Complete registration information, including Special Registration dates for entry into restricted enrollment programs is listed online at www.delta.edu. See Section III, Programs, Validation Procedures.
- (3) Some courses begin and end other than these dates; see each semester's courses on MyDelta. Deadline dates apply to regular semester courses. Check with the Registrar's Office for deadlines for these courses.
- (4) For grading policies, see Section IV, Academic Policies and Information, Grading System.
- (5) Exception: Distance Learning Courses require instructor permission after the start date of class; open entry/open exit courses do not require instructor permission after the start date of the course.

LifeLong Learning Classes: Registration dates, times and procedures are different from above; consult the LifeLong Learning Center brochures published each semester.



Regulations

Title IX (Sexual Misconduct)

Delta College prohibits sexual misconduct of any kind, as it is prohibited by the Delta College Code of Conduct and Title IX of the Educational Amendments Act of 1972. Title IX requires that all entities in receipt of any federal funds or financial assistance must prohibit sex discrimination in all aspects of their education programs and activities, including all off site campus sites. Examples of the types of discrimination that are covered under Title IX include: sexual harassment, failure to provide equal opportunity in athletic and academic programs, and discrimination based on pregnancy and/or parenting status. Title IX protects all males and females from sexual misconduct by any College employee, another student, visitor or a non-employee third party.

Sexual misconduct is a group of behaviors that includes but is not limited to sexual harassment, sexual violence (rape), sexual exploitation, stalking, cyber-stalking, bullying and cyber-bullying, aiding or facilitating the commission of a violation, and retaliation. These behaviors are defined in the Delta College Sexual Misconduct document. Retaliation for filing a complaint, advocating or participating in a complainant for a right protected by Title IX is strictly prohibited. Please see the corresponding Sexual Misconduct Procedures at www.delta.edu/equity/titleix.

Complaints Under Title IX

Anybody who sees, experiences or learns of sexual misconduct or other prohibited conduct should report it. The conduct should be reported to the Title IX Coordinator in the Equity Office or to a responsible College employee, such as a faculty member, administrator, Delta College campus police, or a professional staff member from Student and Educational Services. The reporting individual need not be the victim.

Title IX Coordinator Role

The College's Title IX Coordinator has primary responsibility for coordinating the College's efforts to comply with and carry out its responsibilities under Title IX, which prohibits sex discrimination in all the operations of this College, as well as retaliation for the purpose of interfering with any right or privilege secured by Title IX.

The Title IX Coordinator's functions and responsibilities include the following:

- (1) conducting adequate, reliable and impartial investigations of reports and complaints of sexual misconduct;
- (2) reviewing proposed sanctions before they are imposed to ensure that they are reasonably calculated to stop the sexual misconduct and prevent its recurrence;
- (3) evaluating requests for confidentiality by those who report or complain about sexual misconduct in the context of the College's responsibility to provide a safe and nondiscriminatory environment for all;
- (4) taking prompt steps to ensure the complainant's equal access to the College's programs and activities and protect the complainant as necessary;
- (5) determining whether campus-wide remedies should be adopted in response;
- (6) ensuring ongoing compliance with Title IX to address sexual misconduct on campus; and
- (7) providing or facilitating ongoing training, consultation, and technical assistance on Title IX for all students, faculty and staff

The Title IX coordinator oversees the College's response to reports and complaints that involve possible sex discrimination to monitor outcomes, identify and address any patterns, and assess effects on the campus climate, so the College can address issues. A student should contact the Title IX Coordinator in order to:

- file a complaint or make a report of sex discrimination, including sexual misconduct;
- seek information or training about students' rights and courses of action available to resolve reports or complaints that involve potential sex discrimination, including sexual misconduct;
- notify the College of an incident or policy or procedure that may raise potential Title IX concerns;
- get information about available resources (including confidential resources) and support services relating to sex discrimination, including sexual misconduct; and
- ask questions about the College's policies and procedures related to sex discrimination, including sexual misconduct.

The College's Title IX Coordinator can be reached by telephone at 989-686-9547 or by email at equityoffice@delta.edu and is located in office A-093. Inquiries or complaints that involve potential violations of Title IX should be referred to this office. Inquiries or complaints may also be referred to the Delta College Public Safety Department at 989-686-9113 or report@delta.edu, the U.S. Department of Education's Office for Civil Rights, at 800-421-3481 or ocr@ed.gov, or the Educational Opportunities Section of the Civil Rights Division of the U.S. Department of Justice (DOJ) at 877-292-3804 or education@usdoj.gov.

Equal Opportunity Statement

Delta College embraces equal opportunity as a core value. We actively promote, advocate, respect and value differences, and we foster a welcoming environment of openness and appreciation for all. Delta College prohibits discrimination in accordance with, and as defined by, applicable federal, state, and local laws, particularly non-discrimination in employment, education, public accommodation, or public service on the basis of age, arrest record, color, disability, ethnicity, familial status, gender identity, genetic information, height, marital status, national origin, race, religion, sex, sexual orientation, veteran status, and weight. Direct inquiries to the Equity/Compliance Officer: 989-686-9547 or at equityoffice@delta.edu. (See www.delta.edu/equity for details.)

Students' Education Records: Accessibility & Confidentiality

The Family Educational Rights and Privacy Act (FERPA) of 1974 as amended, was written to protect the privacy of educational records, to establish the right of students to inspect and review their educational records and provide guidelines for the correction of inaccurate or misleading data through informal or formal hearings. Persons requesting information and/or disclosure may be required to provide personal identification acceptable to the College official. Your transcript is Delta College's official record of your work. Your academic record is updated at the close of each semester, and includes all academic courses attempted and completed (course titles, credit hours, final grades, and honor points, semesters enrolled, transfer credit accepted, courses waived, courses substituted, credit awarded by examination or advanced placement, certificates/degrees awarded and academic honors). Other items may also include academic probation, suspension, expulsion or dismissal status where appropriate based on academic, conduct or Title IX violations. Grades of most Non-Credit course work are also maintained by the Registrar's Office. Transcript copies will not be furnished if you have delinquent accounts with the College or as specified by the student handbook or other institutional policies.



For Full Student notification please visit our website at www.delta.edu/registrars-office/ferpa.

Safety and Security

Law Enforcement on the Campus

The Delta College Department of Public Safety & Training is primarily responsible for providing safety and security services, enforcing traffic and parking regulations, and conducting criminal and accident investigations. The Department is located in the Main Building, N101, across from the East Main Entrance. The Department of Public Safety & Training is open during normal hours of business, excluding holidays, at which time officers of the Department may be dispatched through Bay County Central Dispatch, for emergencies only. The police officers of the Delta College Department of Public Safety & Training are vested with full peace or law enforcement authority and arrest powers on campus, granted by state statute to the Board of Trustees of Delta College. These police officers are trained in the same manner as all other law enforcement officers in the State of Michigan and are certified as such through the Michigan Commission on Law Enforcement Standards. The officers also receive training in basic first aid and personal safety. The Department of Public Safety & Training maintains a close working relationship with federal, State, county, and other local law enforcement agencies and appropriate elements of the criminal justice system.

Reporting Criminal Activities/Emergencies

To report a crime or an emergency, you should call the Delta College Department of Public Safety & Training at 686-9111 or for intra-College calls, dial Ext. 9111. A crime or emergency which occurs off-Campus should be reported to the police department having legal jurisdiction for that area. If you are unsure which department has jurisdiction, call 686-9111. The Department of Public Safety & Training maintains two-way radio contact with Bay County Central Dispatch, providing access to assistance and support from the Bay County Sheriff Department, the Michigan State Police, Saginaw Valley State University Police Department, the Frankenlust Township Fire Department, Bay Medical Ambulance, and the Delta College Facilities Management Department.

Annual Security Report

Delta College believes that an informed public is a safety-conscious public. Crime statistics, found at www.delta.edu, AtoZ index, Public Safety, are provided in compliance with the "Jeanne Cleary Disclosure of Campus Security Policy and Campus Crime Statistics Act"

Admission and Pre-Enrollment

Admission Policy and Procedures

Delta College is open to all individuals included in any one of the categories listed below. Admission to Delta College does not ensure enrollment in all courses or program areas. Many courses have prerequisites, some programs have additional admission requirements. Academic programs of study that require specific prerequisites or eligibility requirements are outlined in Section III, Programs.

Regular Admission

- graduate of an accredited high school
- non high school graduate whose high school class has graduated
- home school graduate at least 17 years old
- person with an official General Education Development (GED) credential (certificate/diploma)
- person from another country entering the U.S. for college educational purposes under an authorized student visa approved by Delta College

Conditional “Special” Admission (must reapply each semester)

- guest student from another college/university
- home school graduate under age 17
- student currently enrolled in secondary level accredited school or home school

A committee consisting of the Dean of Teaching and Learning, Dean of Enrollment Management and the Director of Admissions may make exceptions to this policy based upon the individual having the ability to benefit from the College’s educational programs.

Admission Dates

Although admission applications are accepted and processed continuously, we encourage you to submit your application preferably 6-8 months, but at least 30 days, prior to your enrollment period. If you plan to request financial aid, it is essential for you to apply for admission and for financial aid 8 to 10 weeks prior to registration.

Our traditional starting dates are:

- Fall Semester (late August/Early September)
- Winter Semester (early January)
- Spring Session (early May)
- Summer Session (early July)

Admission Procedures

Admission fee: Free

You will be admitted at Delta College as:

Regular Admission

1. First Time In College: If you have not previously attended any college or university prior to enrolling at Delta College.
2. Transfer: If you have attended another college or university prior to enrolling at Delta College.
3. Reactivation: If you have not registered for classes at Delta College for two, or more, academic years you will need to reactivate your student status, update name/address, residency status and academic program. Please visit the Registrar’s Office website at: www.delta.edu/registrars-office

Conditional Admission (must reapply each semester)

1. Guest: If you are enrolled at another college or university and desire concurrent admission.
2. Dual Enrollment/Fast Track: If you are enrolled in grades 9-12 and are given permission by your high school counselor and/or principal.
3. Special Enrollment (Home School/Junior High/Other): If you are “academically qualified.” This status provides a parallel route for you to enhance your present curriculum, enrich your academic experience, and earn college credit while doing so.

Delta College complies with applicable federal and state laws prohibiting discrimination, including Title IX of the education amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (1990)/ADAAA(2008) and the Michigan Persons with Disabilities Civil Rights Act.

Section 504/ADAAA/Persons with Disabilities Civil Rights Act contacts:

- Student/visitors- Office of Disability Resources, 989-686-9794 or www.disabilityresources@delta.edu
- Employees/employment applicants–Human Resources, 989-696-9107 or www.humres@delta.edu

Apply online or submit a paper application to the Admissions Office. Please review the following admission categories and follow the procedures outlined.

1. **High School Seniors:** If you plan to enroll the summer or fall after your June graduation, you need to complete an Admission’s Application. Ask your high school to send your current transcript to the Admissions Office. Be sure to request that a final transcript be sent upon your graduation.
2. **New Students/Adults out of High School/Transfer:** Complete an Admissions Application. You need to request that a copy of your *official transcript* from each previously attended high school, education center, and/or college/university to be sent directly to the Admissions office. Any transcript handled by the student will be considered non-official.

A photocopy of your driver’s license or Michigan Secretary of State ID card **must** be submitted with the application to complete the package for residency verification.
3. **Guest Students:** If you are attending another Michigan college and wish to take Delta courses on a Guest status, you must complete Part I of the *Michigan Uniform Undergraduate Guest Application* (available at your current institution, Delta College Admissions or online at www.delta.edu.) Ask the Registrar at your college to complete Part II and to forward it to Delta’s Admissions Office. Be sure to check with your current institution to determine if your Delta courses will directly satisfy requirements. Upon the completion of your Delta courses you will need to request an “official” academic transcript be sent to your home institution by going online at www.delta.edu/registrars-office.

4. **Dual Enrolled/Fast Track Students:** If you plan to enroll in Delta courses and in high school courses during the same semester, you need to submit an Admissions Application, as a dual student, then submit the dual enrollment approval and tuition authorization form for each semester in which you intend to enroll. This form is available at your high school, and needs to be signed by your parent and high school counselor or principal. Request that your high school send a current copy of your transcript to the Admissions Office.
5. **Special Enrollment Students:** If you are at least 14 years old and attend junior high or high school or are home schooled you may be admitted for one semester at a time under Special Enrollment. This program is provided to supplement your educational plans and to afford educational enrichment in courses and academic areas not available in the student’s school or home school setting. You will

need to submit a Dual Enrollment Application, and the Dual Enrollment approval and tuition authorization form. The form will need to be signed by your parent and high school counselor or principal (only parent if home schooled). The parent or legal guardian is responsible for all fees, tuition, and transportation. You will need to have the ability to read and write at the college level. An assessment exam will be administered to determine your eligibility after you apply.

If you are younger than 14 and can demonstrate the academic and social skills appropriate for college-level coursework you may be admitted for one semester at a time under Special Enrollment. You will need to submit a completed Dual Enrollment Application at least 30 days prior to the beginning of the anticipated semester of enrollment. A letter of support from the school's counselor or principal (or your parent only if you are home schooled) must accompany the application. You will be required to take a college determined assessment exam for proper course placement. A College committee will interview you (accompanied by a parent or guardian) to determine your eligibility for the course and will make a recommendation to the Director of Admissions, who will make the final decision.

- 6. International Students:** If you are not a U.S. citizen or a permanent resident and you are requesting an I-20 form, you will need to complete the International Admissions Application.

Transcripts

If you are a new student in any category, or if you are a returning student who has attended another college or university since Delta, you need to request immediately that your official transcript be sent to:

Delta College, Registrar's Office
1961 Delta Road, University Center, MI 48710

Official transcripts include: college, university, GED, and adult education course work.

Evaluation of Transfer Credits From Other Institutions, Training Programs or Examination Programs

1. Only **official transcripts** will be evaluated. Delta College will only accept incoming transcripts that have appropriate signatures and seals and have been sent directly to the College from an issuing institution. Transcripts in the possession of the student or copies of transcripts or grade reports may be used for academic advising or counseling, but no transfer credits will be posted to the Delta College academic transcript from these documents.
2. Official transcripts should be submitted to the Delta College Registrar's Office from the transfer institution. Transcripts received from a Michigan college or university **at least one month** prior to a registration period will generally be evaluated within two weeks of receipt. More time may be necessary to evaluate transcripts from out-of-state institutions.
3. Credits only, not grades, are accepted in transfer. Grades earned at another school in courses accepted by Delta College are not entered on the permanent Delta academic transcript or calculated in the Delta College cumulative grade point average.
4. A maximum of 38 credits acquired through transfer, training, or examination programs may be used toward registration priority.
5. The credit value of each course accepted in transfer will be determined by Delta College; the number of credits will never be greater than the Delta College equivalent course, but the number granted may be fewer than the number of credits received at the transfer institution.
6. Transfer credit granted will be shown on the student's permanent academic transcript.

Acceptance of Transfer Credits from the other Institutions

A. Regionally Accredited Institutions

Course work completed at a college or university accredited by one of the eight *Regional Accrediting Associations of Colleges and Schools (See below) will be considered according to the following guidelines:

1. Equivalent Course Work

Freshman and sophomore level courses are accepted in transfer. Higher level credits are accepted if they correspond to a specific course at Delta College. If Delta College does not have a department or area similar to the courses on the incoming transcripts, no credit will be awarded. Academic credit will not be granted for courses below the 100 level. A minimum of a "C" (2.0) grade on a 4.0 scale is required in each course for transfer.

2. Non-Equivalent Course Work

"General Elective" credit will be granted for courses completed with a grade of "C" (2.0) or above on a 4.0 scale that are not equivalent to Delta College courses or disciplines. "General Elective" credit applicable to Humanities, Social Science, Science, or Lab Science will be so noted on the student's Delta transcript. (A student must request that a counselor or academic advisor submit the necessary form to receive this credit).

*Regionally - Accredited Institutions:

New England Association of Schools and Colleges, Commission on Institutions of High Education (NEASC-CIHE)

New England Association of Schools and Colleges, Commission on Technical and Career Institutions (NEASC-CTCI)

Middle States Association of Colleges and Schools, Commission on Higher Education (MSA/CHE)

North Central Association of Colleges and Schools, The Higher Learning Commission (NCA)

Northwest Association of Schools and Colleges, Commission on Colleges (NASC)

Southern Association of Colleges and Schools, Commission on Colleges (SACS)

Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities (WASC-Sr)

Western Association of Schools and Colleges, Accrediting Commission for Community and Junior Colleges (WASC-ACCJC)

B. Non-Regionally - Accredited Institutions

Courses that apply toward a Delta occupational Certificate/Associate degree program will be considered according to the following if they were completed with a grade of "C" (2.0) or above at institutions recognized and approved by the Council on Higher Education Accreditation (CHEA):

1. Transcripts will be forwarded for evaluation of the occupational courses to the appropriate Division Chair or Discipline Coordinator. The following options are available to the Division Chairs or discipline Coordinators:
 - a. Equivalent Delta College credit may be granted upon review of course outlines, and/or course descriptions, and/or appropriate descriptive materials. It is the responsibility of the student to provide any requested materials to enable proper evaluation.
 - b. Equivalent Delta College credit may be granted after successful completion of Delta College courses at the subsequent level.

- c. Equivalent Delta College credit may be granted upon demonstration of proficiency via examination, interview, or other appropriate evaluation means as determined by the appropriate Division Chair or Program Director.
- d. Credit may not be granted.

2. No credit will be granted for General Education courses.

C. Foreign Institutions

Delta College evaluates foreign institution transcripts after they have been submitted to a foreign evaluating service which will then forward the official results of their evaluation to Delta College for credit evaluation. You may choose to have your transcripts evaluated by any evaluating service, (for example):

- World Education Services, Inc. (WES) www.wes.org
- Education Credential Evaluators (ECE) www.ece.org

D. Non-Traditional Credit

1. Military credit

- a. All veterans having a certified DD214 form or official Joint Services Transcript (JST) submitted to the Veteran Services Office will be granted credit for LW221 and two lifelong wellness theory (LWT) credits.
- b. Veterans who have taken educational programs during military service may, under certain conditions, receive elective credit for that work. The Guide to the Evaluation of Educational Experiences in the Armed Services by the American Council of Education is used to determine these elective credits.
- c. Courses completed at accredited military colleges, such as The Community College of the Air Force, may result in the awarding of transfer credit.

2. Certified Training

Academic Credit can be granted for the following types of training programs and exams provided criteria for the award of credit is met.

- a. Certified Professional Secretary Exam
- b. Child Development Associate credential
- c. Current State of Michigan Cosmetology License
- d. Current State of Michigan EMT License
- e. Michigan Fire Fighters Training Council
- f. Current State of Michigan Paramedic License
- g. Skilled Trades Journeyman Card
- h. First Aid Card

Proof of current credentialing must be submitted to the Registrar's Office for evaluation and posting of applicable credits or waivers.

E. Credit for Prior Learning

You may be granted academic credit for prior learning in many areas of study at Delta College. The Credit For Prior Learning Options are designed for students who have gained, through related work experience and/or training, learning that may be equivalent to the outcomes and objectives taught in actual Delta College courses.

Credit for Prior Learning is assessed by one or more of the following options:

- 1. **Credit By Exam (CBE):** comprehensive course challenge examinations that are developed and evaluated by Delta College faculty. If you earn a passing grade on a CBE examination, the course credit(s) will be recorded on your

academic transcript. There is a per credit hour attempted fee for all CBE examinations. A CBE may be taken only once per course. Retesting is not allowed. If you are interested in waiver credit, we recommend that you discuss that option with your academic counselor/advisor.

- 2. **Credit By Portfolio:** an individualized process in which you comprehensively document how your work experience directly relates to the outcomes and objectives of a Delta College academic course. All portfolios are reviewed and evaluated by the faculty member(s) who teach that course. A typical portfolio application includes a current resume, personal manuscript, professional references, and supporting documentation. A non-refundable per credit hour attempted fee must be paid before your portfolio application is submitted to the appropriate Academic Division for consideration. If your portfolio application is approved, the earned course credit(s) will be recorded on your academic transcript.
- 3. **Credit By Training:** an individualized process in which you earn academic credit for Delta College Training Programs. If you believe that you qualify for this option, contact Assessment/Testing Services.
- 4. **College Level Examination Program (CLEP) or Defense Activity for Non-Traditional Educational Support (DANTES):** national standardized tests in selected academic areas. Students can earn credit for CLEP and/or DANTES examinations that have been approved by the Academic division(s) as equivalent to specific Delta College courses. The application forms, course equivalents, and minimum passing scores for the examinations accepted by Delta College for academic credit are available from Assessment/Testing Services. There is an examination fee and a non-refundable administration/service fee charged for each examination. You must request that CLEP or DANTES send an official transcript of your examination score(s) to Delta College Admissions Office. Upon receipt of successful examination scores, Delta College Registrar's Office will record the appropriate credit on your academic transcript.

If you are interested in any of these Credit for Prior Learning Options, please be aware that the following restrictions may apply:

- Credit for Prior Learning is not available in all areas of study.
- Credit for Prior Learning credits may not be transferrable to other institutions.
- Financial Aid cannot be used for Credit for Prior Learning fees.
- You may only apply for credit one time per course.

For additional information, visit www.delta.edu or call (989) 686-9338.

All documents submitted to the Registrar's Office become the property of Delta College. Submitted documents may be reviewed, but cannot be re-released by Delta College to either the student or another party without the express written permission of the entity who maintains the original record. Such documents include official transcripts requested by a student from another institution they have attended prior to enrolling at Delta College.

F. Articulation Agreements with High Schools and Career Centers

Articulation is a process which links two educational institutions together to help students make a smooth transition from one level of education to the next without experiencing delay, duplication of courses, and loss of semester credits. Delta College is part of a statewide effort to implement the Competency - Based Education Articulation of career education programs. The secondary articulation agreements allow students to receive college credit for instruction received at the secondary school/center for specific occupational courses.

Credits articulated will become part of the total number of credits for program completion solely at Delta College. These agreements are signed contracts between the faculty and administrators of both institutions, and are re-evaluated annually. The instructors at the secondary level

initiate the process by completing a student articulation application and submitting it to the Articulation Office at Delta College. To maximize counseling services, once a student has been accepted to Delta as an academic student, and has declared a specific course of study other than dual-enrolled, undecided or general studies, the articulated credit(s) will be posted to the student's transcript. No tuition or fees are charged for articulated credit.

The schools currently involved are:

Alma High School
Bay Arenac ISD Career Center
Bay City Central High School
Bay City Western High School
Bullock Creek High School
Chesaning High School
Clare Gladwin Regional Education Service District
Dow High School
Downriver Career Technical Consortium
Essexville Garber High School
Frankenmuth High School
Freeland High School
Gratiot Isabella Technical Education Center – Mt. Pleasant Campus
Hemlock High School
Heritage High School
Huron Area Technical Center
Iosco Regional Education Service Agency
John Glenn High School
Lapeer County Educational & Technology Center
Meridian Early College
Merrill High School
Midland High School
Ogemaw Heights High School
Owosso High School
Pinconning Area High School
Saginaw Career Complex
Sanilac Career Center
Shiawassee Regional Education Service District
St. Louis High School
Swan Valley High School
Tuscola Technology Center

For Post-Secondary Articulation information, see Section III, Transfer and Career Education Articulations .

Further information may be obtained from the schools listed above, or from the Delta College Articulation Office, (989) 686-9070, from Midland (989) 495-4000, ext. 9070. More detailed information is published on the Articulation webpages at www.delta.edu.

After You Apply

After you apply you will receive a prompt response to your Admission Application. Applications submitted in person will be processed immediately. Upon acceptance, you will be issued a student number, and further information about assessment, orientation, advisement, and/or registration procedures. After being accepted, most new and some returning students are required to participate in pre-enrollment procedures such as assessment, orientation, and advisement.

Orientation & PASS (Planning for Academic Student Success)

Advisement

Virtual orientation can be accessed by students with a MyDelta login at www.delta.edu/orientation. During orientation, you will be provided information regarding your academic program, student planning, how to check your Delta email, as well as taking a virtual tour of campus. The student planning simulation shows you how to create a class schedule, register or waitlist for classes as well as track your progress toward certificate and degree completion.

PASS advising is a student-focused meeting with an Advisor or Counselor covering the following topics:

- Program and transfer information, educational and career goals, COMPASS/ACT scores, course recommendations and college resources.
- General information about paying for college such as completing FAFSA, scholarship opportunities and payment deadline information.
- You will have the opportunity to ask any questions you have about college.
- Your PASS advising session must be completed prior to registering for your first semester of college.

Exemptions from Assessment and Orientation will be given only for the following reasons:

- You earned a minimum score of 20 on the English ACT subtest and a minimum of 19 on the Mathematics ACT subtest. A copy of these scores must be given to the Admissions Office.
(This exemption is for assessment only.)
- You have earned an Associate degree or higher from a regionally accredited college. An official final transcript or diploma must be sent to the Delta College Registrar's Office.
- You are a transfer student who has successfully completed English composition and math courses equivalent to Delta College courses ENG 111 or OAT 151, and MTH 096 or higher (with a minimum 2.0 GPA). An official copy of your final college transcript must be sent to the Delta College Registrar's Office.
- You are a Guest student from another college. A completed official Guest Application Form is required from your current college or university per semester.

Students who have the necessary documentation for exemption should contact the Delta College Admissions Office to request an exemption and provide the documentation.

Admissions Advising/Campus Tours

We invite you to call with any questions you may have and cordially invite you to make an appointment with an Admissions Advisor. We will discuss pre-enrollment procedures, the financial aid process, and general college information. The Admissions Office phone number is: (989) 686-9093.

International Student Admissions

Delta College welcomes applications for International Admissions and is authorized under federal law to admit and enroll non-immigrant alien students. In order to obtain a visa for entry into the United States on an F-1 Student visa status, you must present to the U.S. consulate abroad a valid passport, proof of sufficient finances, and a completed I-20 form. After the college has determined that you have met the following conditions, an I-20 form (Certificate of Eligibility) is issued to admitted Delta students. Upon receipt of your I-20, if you do not currently hold an F-1 Visa, you are required to visit <https://www.fmjfee.com/i901fee> for more information about paying your I-901 fee prior to your consulate appointment.

1. Academic Requirements: You must be 18 years of age or older and have successfully completed a course of study equivalent to high school level. You are required to submit certified copies (in English) of your high school leaving certificate, national and international exams, and transcripts, which reflect courses and marks earned during the last three years of high school.
2. Language Proficiency: You must demonstrate you are proficient in English to pursue your studies or you must make arrangements to enroll in an English Language Center prior to acceptance. English proficiency means that you speak, write, and read English fluently. Such fluency is

necessary to ensure your enrollment, proper placement, and success in achieving your educational goals. You must furnish Delta College with proof of having achieved one of the following:

- A minimum score of 500 on the paper based version of TOEFL (Test of English as a Foreign Language) or 173 on the TOEFL CBT or 61 on the TOEFL IBT
- At least 5.0 on the IELTS
- A minimum score of 69 on the MELAB
- Grade 2A from the STEP-EIKEN program
- Completion of a recognized English as a Second Language program. An additional test and interview may be required to establish English proficiency before enrollment.

3. **Financial Verification:** You are required to submit a completed affidavit of support and a current financial statement from a sponsor and his or her bank, which testifies to the sponsor's willingness and ability to support you while you are at Delta. If your government or an organization does not sponsor you, you must submit a current bank statement, which testifies to the existence of enough funds for school and living expenses in your family's account for attendance. All college tuition is due and must be paid in full at the time of registration. Loans, scholarships, financial aid, and deferred payments are not available to international students.

4. **Deadlines:** All documents such as applications, recommendations, official transcripts, financial statements of support, Affidavits, Certificates of English Proficiency, and medical reports must be in the Admissions Office at least four months preceding the semester you desire to be admitted.

Applying from home country		
Semester	Application Deadline	Semester Begins
Fall	May	Last week of August
Winter	September	Second week of January
Spring	January	Second week of May

Transferring from USA/Canada Colleges		
Semester	Application Deadline	Semester Begins
Fall	Mid July	Last week of August
Winter	Early December	Second week of January
Spring	Early April	Second week of May

5. **Medical Insurance:** After arrival and before registering for classes, you must purchase medical insurance with a repatriation clause. Failure to do so or cancellation of the policy will result in you not being able to register for future semesters at Delta and notification will be given to the United States Citizenship and Immigration Services that you are not enrolled.

6. **Verification/Academic Advisor/ Orientation/Assessment:** Upon arrival, you must verify visa status, provide a copy of the I-94 card from your passport, and provide a copy of the applicant information from the inside of the passport with the Admission's Office. Orientation and Assessment will be scheduled after arrival and prior to class registration for answers to specific questions about enrollment, contact the international student Admissions Advisor by e-mail (admit@delta.edu). Important notes:

- Applications for admission to Delta College will be mailed upon request. High school records submitted by friends or relatives on your behalf are not accepted. Official records must be mailed directly to Delta College from your secondary school, college, or the Ministry of Education in your country.
- All documents must be original, certified copies and must be accompanied by an official English translation. The principal or registrar of each school or college attended must sign the transcripts. You must not leave your country, language center, or college before you receive official acceptance from Delta College.
- Students on an F-1 visa must enroll full-time (at least 12 credit hours per semester, per academic year) at Delta.
- F-1 students must agree to enrollment stipulations as required by federal law. Therefore, F-1 students must indicate their acceptance of these stipulations by signing a contract as part of the admission process, and maintain compliance for each semester of enrollment. International Students (all visa classifications except F-1 Student Visa): International students range from permanent resident aliens to a visitor on any visa from an A visa to an R visa, including refugees and people with asylum status. Certain restrictions may apply depending on which status you may hold in the United States.
- If you are a permanent resident alien (green-card holder) and wish to attend Delta you may register either as a part time or full time student. Admission procedures for a permanent resident alien is as follows:

Submit a completed application with a copy of your (I-551) green card (front and back), and also include a copy of your driver's license or State of Michigan identification.

- If you possess refugee or political asylum status in the United States and wish to attend Delta you may register either as part time or full time. Admission procedures are as follows:

Submit a completed application for admission with a copy of your passport (if applicable), appropriate documentation showing your status, and a driver's license or state identification to show where you currently reside.

- Admission requirements for all other visa holders:

Submit a completed application for admission with a copy of your passport and the visa that you currently hold.



On the Web: www.delta.edu



Costs

Delta offers quality education at the most reasonable cost in the Great Lakes Bay region.

Costs are thru the 2017-2018 academic year. Use for estimation purposes only.

Tuition:

In-District	\$99.50 per credit
Out-District	\$170.00 per credit
Out-Of-State/International.....	\$320.00 per credit
Course Fees	Varies - www.delta.edu
Excess Contact Hour Fee	up to \$2,130 (Pending residency status designation and total number of excess contact hours enrolled in per term.)
Technology Fee	\$17.00 per credit
Online Internet.....	\$25.00 per credit
Registration Fee	\$40 per semester
Admission Fee	\$ 0
Orientation Fee	\$ 0
Assessment Fee.....	\$ 0
Transcript Fee	\$ 5.00 per copy (Plus additional processing fees charged by National Student Clearinghouse pending ordering options.)
Library Fee	\$ 0
Tutoring Fee	\$ 0
Parking Fee (except violations)	\$ 0
Student Activities Fee	\$ 0
Graduation Fee	\$ 0
Diploma Fee.....	\$ 0 (\$15.00 for duplicate or replacement copies of Diplomas)
Michigan College Online	
as of May 2014 for estimating purposes only	
MCOTuition:	
In-District (MCO)	\$160 per credit
Out-District (MCO)	\$230 per credit
Out-State (MCO)	\$300 per credit

Other Costs: In addition to tuition and fees, you must be prepared for the other costs incurred when attending college. These include books, supplies, transportation, room and board, miscellaneous personal expenses, child care, and any costs associated with disabilities.

Residency Policy and Guidelines

Educational costs at Delta College are shared by students, the taxpayers in the Delta College District, and the State of Michigan. Property taxes paid by residents of the Delta College District supplement student tuition and state aid for In-District status students therefore, the tuition charged legal residents of the Delta College district is the lowest and students who are classified as Out-of-State are charged the highest tuition. A student's residency classification is established when admitted to Delta College and may only be changed as detailed under item four (4).

- 1. Residency Classifications:** A person will pay course tuition and fees according to one of the following classifications of legal residence:
 - a. In-District Status: Legal resident* of Bay, Midland, or Saginaw counties. (This is the Delta College District)
 - b. Out-of-District Status: Legal resident* of Michigan, but not of the above three counties.
 - c. Out-of-State Status: International students (including Au Pares) and all others not classified within a or b above.

* A legal resident is one whose permanent, primary residence is where the student intends to return whenever absent from college. A dormitory is not a permanent primary residence.

- 2. In-District Criteria:** For tuition purposes, an In-District student is

an American citizen or permanent resident who can provide legal proof of residence within Bay, Midland, or Saginaw counties for at **least three consecutive months** immediately preceding the first day of the semester in which the person plans to enroll.

Exceptions considered are:

- a. The legal residence of a student under age 18 is that of the parent or legal guardian regardless of where the student may have been living for the previous six months.
- b. The student marries an individual who qualifies as an In-District resident of the Delta College District.
- c. The person is an employee of a business or industrial firm within the Delta College District, AND the employer, by written agreement, agrees to pay directly to the College all tuition and/or fees of the sponsored student for employer-approved classes. If the employer is not directly paying the College for the student's tuition/fees bill, the student will be assessed the appropriate out-of-district or out-of-state tuition rate.
- d. In-District students whose families/spouses move out of the Delta College District during the time they are enrolled may retain their residency status as long as they maintain continuous enrollment. Student must complete Petition to remain In-District Application each semester.
- e. A permanent alien who has filed the Declaration of Intention to become a U.S. citizen and who can provide proof of Delta College District residency for the **previous three consecutive months**, may petition for In-District status.

- 3. Proof of In-District Residence:** All students are subject to a check of their residency status. Students furnishing false information will be subject to disciplinary action. The following examples are types of documents which are considered in determining proof of in-district legal residency

- a. A current/valid Michigan driver's license, Michigan Secretary of State I.D. card, or valid Michigan motor vehicle registration in the student's name indicating a permanent address within Bay, Midland, or Saginaw counties.
- b. A property tax receipt from Bay, Midland, or Saginaw counties.
- c. A current voter registration card indicating an in-district address.
- d. Other legal documents such as court-issued guardianship papers.

Must indicate proof of residence for at least **three consecutive months** immediately prior to the semester in which the student plans to enroll.

- 4. Change of Residency Status:** While attending Delta College, students may petition the registrar to change their residency classification. Residency Status change forms are available from the Registrar's Office and must be submitted, with proof of In-District residence (see No. 3) by the end of the refund period for the term status change is being petitioned. Students must meet the criteria stated in item. 2.

Any adjustments made in tuition due to a change in residency status shall not be retroactive nor changed within a semester.

Note: Guest students from other colleges and international students working or visitor on a visa should not expect to have their residency status changed while attending Delta College, as the definition of legal resident has not been met. If you have questions regarding residency, please contact the Registrar's Office at (989) 686-9305; from Midland/Auburn, 495-4000, ext. 9305.

- 5. Tuition Adjustment:** Any adjustments made in tuition and fees due to a change in residency status shall not be retroactive nor changed past the refund period for the term being petitioned.



6. Other Residency Information:

- a. Military Personnel & Covered Individuals: Any individual using educational assistance under either Chapter 30 (Montgomery GI Bill® – Active Duty Program), Chapter 33 (Post-9/11 GI Bill®), of title 38, United States Code, and/or the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in the State of Michigan while attending Delta College (regardless of his/her formal state of residence) will receive in-state tuition rates.
 - b. Any individual using Veteran Educational Benefits possessing a Department of Veteran Affairs Certificate of Eligibility will receive Delta College In-District Residency Classification.
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Financial Aid

The Delta College Financial Aid Office (FAO) administers a comprehensive program of financial assistance to help you with the cost of attending college. The Federal government, the State, Delta College, and other organizations are sources of assistance, if you demonstrate financial need and/or merit. Follow the Free Application for Federal Student Aid (FAFSA) procedures below for Federal financial aid consideration. The financial aid process can take four to six weeks to complete and some types of financial aid are limited, so it is important to apply early. Once you have applied, remember to frequently check your Delta email account for important information regarding your financial aid eligibility.

FAFSA Procedures

1. You may complete the FAFSA for the upcoming academic year beginning October 2016. Apply online at www.fafsa.gov. Accurately answer each question on the FAFSA, indicate Delta's College Code (002251), sign it using your/your parent's FSA ID, and electronically submit your application. This will generate a Student Aid Report (SAR), which will be sent directly to you via e-mail.
2. Once you receive your SAR, look it over carefully to make sure it is correct, as the information on this report will be used to determine your eligibility for financial aid. Corrections can be made online at www.fafsa.gov. If you need assistance with corrections, please contact the Financial Aid Office.

Eligibility for Aid

To be eligible for aid you must be a U.S. citizen or permanent resident of the U.S., must not be in default on any student loan and not owe a repayment on any Federal grant. You must, in most cases, enroll and attend at least half-time, maintain satisfactory academic progress as defined by the Delta College Standards of Academic Progress policy, and be enrolled in a program of study leading to a certificate or degree. You must have a high school diploma or GED in order to be eligible for Federal Financial Aid.

Once you have met the eligibility requirements listed above you will be considered for all aid programs administered by Delta, except student loans and scholarships which require a separate application. The financial assistance offered to you may include any of the programs listed on the chart on the following page. You will be notified via your Delta email account regarding the amounts and types of financial aid available based on full-time attendance. Enrollment less than 12 credits will reduce your award accordingly.

Direct Loan eligibility is based on your anticipated enrollment status. If your enrollment status changes, your eligibility will be recalculated and your loan may be reduced or cancelled. Loan funds are disbursed to Delta College via electronic fund transfer (EFT). The Student Finance Office will mail your loan funds directly to your address on file with the college after any balance owed has been deducted. Loan funds will be disbursed in two separate installments per semester. First disbursement will be applied 30 days after the start of the semester. The second disbursement will be applied after the midpoint of the semester.

Census Date

The Delta College Financial Aid Office calculates federal aid eligibility on a specific census date for each semester. All registration changes for each semester should be completed by the 18th day for federal aid consideration. Be sure to register and have your class schedule set by the 18th calendar day of each semester. Delta College defines calendar days as all days of the week including weekends and holidays. Financial Aid will NOT be considered for any class(es) registered for after this date. This includes classes that start later in the semester. Keep in mind, waitlisted classes are NOT considered registered class(es).

Initially, financial aid is based on enrollment status at the time of registration. However, your final award will be determined based on the enrollment status at the census date during each semester. Please refer to attendance policy and Return to Title IV (R2T4) policy before enrollment changes are made to learn how financial aid will be affected. Contact the Financial Aid Office at 989-686-9080 if you have any additional questions.

Every Direct Loan borrower must complete online Entrance Loan Counseling and a master promissory note (MPN) at www.studentloans.gov prior to completing their first Direct Loan application at Delta College

Rights of Financial Aid Applicants

1. You have the right to know what financial aid programs are available.
2. You have the right to know the deadlines for submitting applications for each of the financial aid programs available.
3. You have the right to know how financial aid will be distributed, how decisions on that distribution are made, and the basis for these decisions.
4. You have the right to know how your financial need was determined.
5. You have the right to know what resources (such as parental contribution, other financial aid, your assets, etc.) were considered in the calculation of your need.
6. You have the right to know how much of your financial need, as determined by the institution, has been met.
7. You have the right to request an explanation of the various programs in your student aid package.
8. You have the right to know the Delta College refund policy.
9. You have the right to know what portion of the financial aid you received must be repaid, the payback procedures, the length of time you have to repay, and when repayment is to begin.
10. You have the right to know how Delta College determines whether you are making satisfactory academic progress and what happens if you are not.

For an explanation of any of the above rights, please come to the Financial Aid Office and meet with a Financial Aid Advisor.

Responsibilities of Financial Aid Applicants

1. You must complete all application forms accurately and submit them on time to the right place.
2. You must provide correct information. In most instances, misreporting information on financial aid application forms is a violation of law and may be considered a criminal offense which could result in indictment under the U.S. Criminal Code.
3. You must return all additional documentation, verification, corrections, and/or new information requested by either the Financial Aid Office or the agency to which you submitted your application.
4. You are responsible for reading and understanding all forms that you are asked to sign and for keeping copies of them.
5. You must accept responsibility for all agreements that you sign.
6. You must perform the work that is agreed upon in accepting a Work-Study job.

Financial Aid recipients must meet Standards of Academic Progress to continue to receive aid. See Section IV, Academic Policies, Standards of Academic Progress for Financial Aid Recipients.



On the Web: www.delta.edu



Financial Aid Programs

FEDERAL PROGRAMS	A	B	C	D	E	F	WHO IS ELIGIBLE	HOW MUCH?	HOW TO APPLY
Federal Pell Grant	Y	Y	Y		Y	Y	Students with Expected Family Contributions (EFC) between 0 and 5198.	Awards range from \$626 - \$5,775.	Apply at www.fafsa.gov
Federal Work-Study	Y	Y	Y		Y	Y	Students with remaining need of at least \$1500, if funds are available.	Awards range from \$750-\$2,500 per semester. The student earns these funds through part-time employment and receives a paycheck every two weeks.	Apply at www.fafsa.gov and indicate an interest in work - study.
Federal Supplemental Educational Opportunity Grant	Y	Y	Y		Y	Y	Students with expected family contributions of 0, if funds are available.	\$100 per semester.	Apply at www.fafsa.gov
Federal Direct Loan (A) Subsidized (B) Unsubsidized (You Pay Interest While In School)	Y	Y	Y		Y	Y	a) Cost minus family contribution minus other aid = need. b) Cost minus other aid (including subsidized loan) = need.	Dependent student subsidized and unsubsidized loan maximum is \$5,500 as Freshman, \$6,500 as Sophomore. Independent student may be eligible for additional unsubsidized Stafford loan.	Obtain the Federal Stafford Loan Application through your My Delta account.
Federal Parent Loan (PLUS)	Y	Y	Y		Y	Y	Parents of dependent students.	Cost of attendance minus aid = eligibility.	Apply at www.studentloans.gov
Veterans Benefits	Y				Y		Veterans who are eligible or certain dependents of deceased or disabled veterans.	Varies.	Contact Veterans' Services at Delta College or visit their website at www.delta.edu/veterans-services.aspx
STATE OF MICHIGAN PROGRAMS									
Michigan Competitive Scholarship Program	Y	Y	Y	Y		Y	Students who qualify as semi-finalists on ACT test. Awards made by State of Michigan Department of Education.	Maximum award to be determined by state each academic year.	Take the ACT test in high school. If eligible, list Delta College (002251) FAFSA. Deadline: March 1
Tuition Incentive Program (TIP)	Y	Y		Y			Students under the age of 20 at the time of high school graduation or GED completion and who were Medicaid recipients for at least 2 years of a 3-year time period may be eligible.	Tuition and certain fees	Contact Michigan Student Scholarships and Grants at 1-800-447-2687.
Michigan Indian Tuition Waiver				Y			Must have written certification from tribe of being at least 25% Native American and proof of 1-year Michigan residency.	Tuition-only for any number of credits. Does not pay fees or other charges.	Obtain ITW application at www.michigan.gov/mdcr
DELTA PROGRAMS									
Presidential Honors Scholarship	Y			Y	Y		Students must meet the selection criteria.	Full ride.	Obtain the online scholarship application and deadline date at www.delta.edu .
Foundation Scholarships	Y				Y		Students must meet the selection criteria of the various donors.	Varies	Obtain the online scholarship application and deadline date at www.delta.edu .
A. Must meet standards of academic progress for financial aid recipients. B. Must not owe a refund or be in default on any Title IV Aid. C. Must demonstrate financial need as determined by the federal formula.							D. Must be a Michigan resident. E. Must be enrolled in a Delta College academic degree or certificate program. F. Complete and submit the free application for Federal Student Aid according to the directions provided. Be sure to list Delta's Title IV Code (002251) on the application.		



Registration

Registration at Delta generally takes place three times a year, starting in March/April for the Fall Semester, starting in late October for the Winter Semester, and starting in March for the Spring Semester.

The Registration Process

Any student, new, returning, dual, transfer, and guest, may register online at www.delta.edu using Student Planning:

- As a new student, you are eligible to register after you complete orientation and PASS.
- As a returning, dual, or transfer student you may be given priority to register according to the number of credits you have completed at Delta (including a maximum of 38 transfer credits)
- If you are designated an official guest student by the Admissions Office, you may register at the time all students can register.

Each semester, registration periods are held for any student who has missed the above registration opportunities. You are expected to register during the official registration periods. After the course has started you may register with the written permission of the instructor. It is College policy that if you have financial obligations to Delta College, you will not be allowed to register until the obligations have been paid or cleared.

Note: If receiving Federal Financial Aid, all courses for a given term must be registered by the 18th day of the term (all calendar days including weekends and holidays) to be eligible for aid.

Cancelled Courses: The College reserves the right to cancel any course which does not have a sufficient enrollment of students to warrant its continuation. You should attempt to add another course or receive a refund.

Course Schedule Changes: You are expected to complete the courses in which you are registered. If a change is necessary, you may drop a class online via MyDelta or Student Planning. You may also file a drop form at the Registrar's Office, send a letter, e-mail, or fax to the Registrar's Office requesting the drop or withdrawal. The date this form is received or the postmark on the envelope is the official drop date for the course.

Added Courses: You may add courses until the first session begins online via MyDelta or Student Planning, or at the Registrar's Office. Courses added after this require submission of written permission of the instructor or division chair with these exceptions:

- Courses added after the start date of the semester will follow the refund policy of the course no matter when the registration took place.

Student-Initiated Drops: For courses officially dropped within the refund period of the course, no grade will be reported or recorded on the official College transcript. If the course is officially dropped after the refund period and through four-fifths of the course you will receive a grade of "W".

If you do not officially withdraw/drop, the instructor will assign an appropriate final letter grade ("A" through "F") in relation to total course requirements achieved.

Instructor-Initiated Drops: An instructor has the option of authorizing a grade of "WI" (withdrawal by instructor) for you if you have missed an excessive number of course hours of instruction or you lack the course prerequisites. This authorization may be initiated through four-fifths of the course and reported to the Registrar's Office.

Upon receipt of an authorization, the Registrar's Office will notify you of the reason for the drop.

If you wish to appeal an instructor-initiated drop, the contact must be with the course instructor. If necessary, mediation may be requested of the appropriate Division Chair. All appeals must be in writing, signed by you as the person requesting the appeal, and received within one week following notification of the drop.

Withdrawal from College: To completely and officially withdraw (drop all courses), you may complete a drop form at the Registrar's Office. Withdrawal may also be processed online via MyDelta or requested by letter, fax, or e-mail. The date this notice is received, or the postmark on the envelope, is the official withdrawal date.

Course/Credit Load

If you are a full-time student, course load is 12-18 credits in a semester. To register for a course load in excess of these limits, you must obtain special permission from a counselor before registration. Approval of an excess course load depends upon your previous academic record.



On the Web: www.delta.edu

Waitlist Policy & Process

Getting a perfect schedule can be a challenge each semester. There are many factors to consider such as: graduation requirements, work schedules, class location, instructor, day/night or online options. Many times you are able to get a schedule that meets all your needs and other times you need to find alternatives and make adjustments. To help you, Delta offers the opportunity to Waitlist.

What is a Waitlist?

Waitlists are electronically-managed lists for you to indicate your interest in a particular section of a class that has reached maximum enrollment which is the posted capacity of a section for any given course. A given course may have multiple sections offered during any term to allow for the greatest scheduling opportunities for students. This means that if a class has twenty seats and all of them are taken, students can place themselves on the Waitlist for that class in case a spot becomes available. Spots become available due to student drops, drops for lack of pre-requisites and drops due to non-payment of tuition and fees. Choosing to add to a Waitlist must be done with careful consideration.

This information is to be used for waitlisting of non-Allied Health Clinical courses only. Clinical entry course waitlisting procedures can be found at: <http://www.delta.edu/registrar-office/validation-forhealthprograms.aspx>

Factors you need to know and consider before waitlisting are:

- A Waitlist does not mean a student is registered for a class— Waitlisting means a student is interested in taking a class that is currently full and that the student wishes to be notified electronically of any openings.
- Being on a Waitlist does not guarantee a student will be able to eventually register for a closed class. Waitlists can be very large and many courses have few, if any, student drops creating openings.
- Students do not know their "spot/number" on a Waitlist nor is this position revealed to the student. The number students see when searching/adding sections, or managing their Waitlist, via



MyDelta only indicates the capacity for any given course, the number of students registered for a course and the total number of students Waitlisted. These numbers change constantly and are only as current as the last refresh of one's browser.

- Delta faculty and staff members will not disclose any student's "spot" on a Waitlist.
- Students must meet all the pre-requisites for the class. Please consult the Delta College Catalog, the Registrar's Office or Counseling/Advising & Career Services with questions.
- Students may Waitlist for more than one course, but only one section of any course may be Waitlisted.
- Students can be enrolled in a particular section of a course and add themselves to another section's Waitlist. If permission is granted, the student must make a choice on which section to keep as students can only enroll in one section of any course at one time per semester.
- Waitlists are only valid for one semester. Students must register each semester for all courses and add themselves to any Waitlists they are interested in.
- Any restrictions placed on a student's account due to outstanding balances, academic standing, varsity athletics, etc. will be enforced.
- Students must monitor their Delta College issued email daily at least once. If a spot becomes available they will receive an email indicating that they have (48hrs/2 days) to accept this spot. Instructions on how to register are included in the communication. Waitlist processing is initiated during normal College business days.
- Managing one's Waitlist selections, as well as registered classes, is the ultimate responsibility of the student. A student's choices will impact how much courses, fees, books and supplies will cost both in money and time. Good registration and time management choices will help keep a student on track and on budget!
- If a student receives permission to register after the first Payment Deadline it is the student's responsibility to verify sufficient funding (Financial Aid, Scholarships, etc.), and to pay the required tuition and fees of the added course(s). It is important to remember that if permission is not received to register, financial aid will be adjusted to reflect the number of credits registered for.

Payment due for courses added, or a balance due resulting from a schedule change, after Delta College's initial semester payment deadline (<http://www.delta.edu/registrar-office/payment-deadline.aspx>) is weekly on Tuesdays. Payment may be made online by midnight, or can be paid in-person or phone during normal business hours. In person payments can be made at the Cashier's Office, B-111, Delta College, Main Campus.

The College will drop courses for non-payment on Wednesdays of each week. Official College closings will result in course drops on the next available business day. It is the ultimate responsibility of the student to verify their current term class schedule and student account information each term for accuracy.

- Students must self-register for any courses they wish to add to their schedules.

We hope this information helps you make informed decisions regarding your semester course plans. Our goal is to assist you in obtaining your educational goals in an efficient and cost effective manner. Please remember to utilize Delta's Counseling/Advising & Career Services Office in your academic planning for the latest advice and information on classes, graduation requirements and career planning.

Delta College reserves the right to offer, maintain, and adjust all courses and Waitlists at any time for any reason. All changes, when feasible, will be communicated to students at the earliest possible time.

Tuition and Fees

Full payment of tuition and fees by the payment deadline is required to complete registration. Payment may be made by check, cash, MasterCard, VISA, Discover, with a tuition payment plan, with approved financial aid or sponsor authorization. When you register for a class, a seat is reserved for you. This obligates you to pay tuition and fees for that seat. If your payment is not sufficient or subsequently adjusted for changes in financial aid or sponsor authorization, Delta College reserves the right to drop you for non-payment or submit your unpaid student account balance to legal collection process. You will be responsible to pay any collection and attorney fees resulting from legal collection process.

Tuition is charged per credit hour based on your residency status.

A non refundable Registration Fee of \$40 is charged to academic students once each semester. A Registration Fee is not charged to non-academic students.

A Technology Fee is charged to all academic students per credit hour each semester.

Additional fees are charged for specific courses and are subject to change without prior notice.

The per credit hour tuition rate and course fees for each semester are published online at www.delta.edu and are subject to change without prior notice by action of the Board of Trustees.

If you are a resident of the Delta College district, 60 years of age or older, you may register for courses offered by the College and receive a grant reducing the amount of tuition due by 50%. The grant does not apply to fees (registration, technology, contact hour, course, etc.), books, supplies, trip costs, or other special fees. The College reserves the right to exempt certain courses or programs from grant eligibility. To be eligible for the Senior Citizen Grant Program, you must have a Delta College identification number. The identification number is issued by the Admissions Office after completing a brief application form, which requires proof of age.

Payment Deadlines: Refer to schedule online at www.delta.edu for payment deadlines each semester.

Textbooks and Equipment: You are required to purchase your own textbooks, supplies, personal attire (i.e., lab coats, clinic shoes, etc.), special equipment, and tools as required by courses and most of these items may be purchased at the College Bookstore, which is located in the Commons/Food Court area and open during all College registration hours, or online.



On the Web: www.delta.edu/bookstore



Refund Policy

You may drop courses at the Registrar's Office in person. You may also drop by mail, fax, e-mail, or on-line via MyDelta or Student Planning as deadlines may fall on Saturday, Sunday or holidays, when offices are closed. Payments for tuition and fee refunds are processed after the Add/Drop period has ended.

Tuition and Special Course Fee:

100% refund: from the official start date and through the 7th calendar day* (including the first day of class, Saturday, Sunday and holidays).

50% refund: from the 8th through the 11th calendar day* (including the first day of class, Saturday, Sunday and holidays) of the official start date of the course.

No refund: after the 11th calendar day (including the first day of class, Saturday, Sunday and holidays) of the official start date of the course.

For courses less than four weeks but more than 2 days:

100% refund: through the first quarter of the total days** of the course

50% refund: through the second quarter of the total days** of the course.

No refund: after the second quarter of the course.

For one or two day courses:

100% refund: before the start date of the course.

No refund: after course begins.

Courses which have nonrefundable tuition or course fees are noted on my Delta "Search for Classes."

Refunds are based on the start date of the course regardless of when you register.

Registration Fee

No refund, unless all courses are cancelled by the College.

Offset

During the 12th through the 25th day from the official start date listed in the schedule, students are permitted to offset equal credits and course fees within the same academic discipline (for example, switching from one ENG course to another ENG course, but not from an ENG course to a MTH course) with the submission of the written recommendation of their instructors through the add/drop procedure. For credits or fees added in excess of credits dropped, additional tuition and fees must be paid. During this period, grades of "W" will not be assigned to courses dropped through the offset process. Offset cannot be done between sessions (for example, dropping an ENG course during the first 7 1/2 week session and adding an ENG course during the second 7 1/2 week session or dropping a MTH course during the Spring 7 week session and adding a MTH course during the Summer 7 week session). Financial aid recipients considering an off-set should check with the financial aid office prior to submitting an off-set form.

Financial Aid Recipients

A student receiving Federal aid who ceases attendance prior to the end date of the semester will be subject to a Title IV Return of Funds recalculation. Depending on your last date of attendance, your financial aid for the semester in question may be adjusted. Unearned financial aid is returned to programs according to Federal guidelines. Funds are returned in the following order: Federal Loan Programs, Federal Pell Grant, Federal SEOG, and to other Title IV aid programs. You will be responsible for repaying any unearned aid that you were not entitled to receive. Repayment arrangements must be made with the Delta College Student Finance Office.



On the Web: www.delta.edu/financial-aid-office/attendancepolicy

Tuition Refund Appeal

The college realizes that on occasion students may need to request an exception to the withdrawal/refund deadline as published due to **extenuating** circumstances. Examples of such circumstances may be obtained on the web at www.delta.edu (search Refunds) or in the Registrar's Office-B100.

*Calendar day is defined as all the days of the week including Saturday, Sunday, and holidays

**Total days is defined as all the days of the course including the start date to the end date listed on the registration statement including Saturdays, Sundays, and holidays.



On the Web: www.delta.edu/registrar-office

Section III

Programs

Transfer Programs and Procedures



Delta College offers three Associate degrees which provide you with the foundation to transfer to a Baccalaureate granting college or university:

- Associate of Arts (AA 40000)
- Associate of Science (AS 40000)
- Associate of Fine Arts (AFA 40380)

The requirement for the Associate of Arts and the Associate of Science degrees are listed in Section IV Graduation Requirements, while the requirements for the Associate of Fine Arts degree can be found in Section III programs.

Transfer programs can be individually developed with a Delta Counselor/Advisor. Also, with the addition of some courses, almost any Delta College Career Education Associate in Business Studies Degree, Associate in Applied Science Degree, or Associate in Applied Arts Degree may be utilized in part toward fulfilling a portion of a Baccalaureate degree. Transferability of these career education programs and courses depends primarily upon the major area of study in the Baccalaureate degree and the senior school of choice.

Transfer Mission Statement

To facilitate a seamless transition of students and course credits toward degree completion, Delta College is committed to providing academic programs, support services and formal articulation processes for students transferring to or from other accredited institutions.

Delta College is an excellent choice for students planning to earn an Associate degree. While enrolled at Delta in a transfer degree program, you will enjoy these benefits:

- A campus that is convenient to your home and job.
- Costs that are well below four-year colleges and universities.
- Classes that are small and interactive.
- Faculty who are sincerely concerned about your success and available to provide individual assistance.
- Personal student services and academic advising that will support your career decision-making and educational needs.
- Transfer courses that are recognized by respected colleges and universities throughout the United States.
- Time to establish firm career goals and adjust to college-level studies.
- Opportunity to refine your academic abilities and improve reading, composition, mathematics and study skills if needed.

Delta's Associate in Arts, Associate in Science and Associate in Fine Arts Degree Programs provide you with a solid academic foundation required for success at your chosen four-year college or university.

Delta College provides the first half (freshman and sophomore years) of most Baccalaureate degree programs. After completing your Associate in Arts, Associate in Science, or Associate in Fine Arts Degree at Delta College, you will, in most cases, be qualified to transfer to complete the second half (junior and senior years) of the Baccalaureate degree if you have planned carefully, followed the academic advising provided by Delta Counselors/Advisors, and successfully completed the required courses at the minimum grade level stated by the four-year college or university. It is particularly important for you, as a transfer student, to choose your four-year school in your freshman year because the preparation needed at Delta College to enter one transfer school may be different from the preparation and admission requirements at another school. Profes-

sional counselors are available at Delta College to assist you in choosing your college or university and helping plan your transfer program to fit that school.

Transfer Wizard (Review Credits Accepted at Delta College)

Transfer Wizard is a feature on the Delta College website that allows you to see how courses from colleges and universities transfer in to Delta. This does not replace the requirement that all students must send an official transcript to Delta College, but rather is intended to help students guide themselves in selecting courses at Delta College.



On the Web: app.delta.edu/transferwizard/SchoolList.aspx

Michigan Transfer Network (Review Credit Transfer Options within Michigan)

The Michigan Transfer Network (MTN) is a centralized web-based system that allows any student who has completed a course at any Michigan college or university to find the equivalency for that course at any other Michigan college or university. New equivalencies are loaded to the MTN regularly. If you don't see the course you are looking for it does not mean you will not receive credit. (For transferring to Delta, all students must send an official transcript to Delta College for a course evaluation.)



On the Web: www.michigantransfERNETWORK.org.

Michigan Transfer Agreement (MTA)

What is the Michigan Transfer Agreement (MTA)?

The Michigan Transfer Agreement (MTA) was designed to facilitate the transfer of general education requirements from one institution to another. Students may complete the Michigan Transfer Agreement as part of an Associate degree or as a stand-alone package at a Michigan community college.

How many courses must a student complete in order to earn the MTA at Delta College?

Students are required to complete at least one credit-bearing course at Delta College to be eligible. You may use transfer credits to complete the remainder of your MTA requirements. All courses used to satisfy the MTA must be completed with a minimum grade of "C" (2.0). Delta College reserves the right to determine which courses will be evaluated for transfer and used to satisfy MTA requirements.

Are students required to complete an associate degree in order to satisfy the MTA?

No, students are not required to complete a degree in order to earn the MTA. Students who have earned an Associate degree may later complete the MTA if desired.

Do students need to be enrolled at Delta College in order to earn the MTA?

No, students do not have to be currently enrolled to request an MTA evaluation. If all requirements are met after the evaluation, the MTA will be issued.

Minimum Requirements Needed to Fulfill the MTA

Students must successfully complete a minimum of thirty (30) credits from course work in six defined areas (see below) with at least a grade of "C" 2.0 in each course.

Distribution Areas:

- One Course in English Composition (ENG).*
- A Second Course in English Composition (ENG) OR one Course in Communications (COM).*
- Two courses in Social Sciences, from two disciplines.*
- Two courses in Humanities and Fine Arts from two disciplines excluding studio and performance classes.*
- Two Courses in Natural Science including one course with laboratory experience; two disciplines.*
- One course in Mathematics.*

*For a list of approved courses, see page 338 of this catalog or consult with a counselor/advisor.

**Additional coursework may be required to satisfy the minimum thirty (30) credit hour requirement.

***For list of participating institutions and related policy related to the MTA, please visit: www.MACRAO.org

Students who complete the MTA agreement will have it noted on their official transcripts. It is expected that the receiving institution will honor the MTA if it is in the best interest of the student. It is advisable to consult with an admissions representative at your prospective transfer institution to ensure timely and efficient transfer and acceptance of all transfer credits.

Transferability of Delta Courses

Based upon information provided to Delta College from major Michigan public and private four-year universities, the transferability of courses between colleges/universities depends on:

1. The college/university into which you transfer.
2. Your program of study (program, or more specifically, the major and/or major and minors you are seeking).
3. The grade you receive in the course. In general, a "C" or better is necessary; a "B" in "major" courses.
4. Whether or not the transfer college/university has an equivalent course and if so, the number of credits acceptable for their course.
5. The level of the course. For example, an intermediate algebra course may be acceptable for one program, but not for others that require higher levels of mathematics.

Delta College has relationships with many colleges and universities regarding their transfer requirements and program recommendations; however, if you wish to transfer credits from Delta to another college/university, it is **your** responsibility to be aware of that institution's transfer policies and program requirements.

There is a limit to the number of credits you may transfer into a college or university. Generally, this is 62 credits, or half the total number of credits required for the Baccalaureate degree (always check with college/university).

You should maintain close contact with your counselor/advisor for all possible assistance in registering for the proper courses and maintaining the necessary level of academic performance. While Delta College will make every effort to give proper guidance, you are responsible for your own choices and for developing your own educational plan.

Evaluating Colleges

Transferring from one college/university to another is very common, but to make it a positive experience, you are encouraged to investigate colleges and universities and their degree requirements, plan ahead, and work closely with your Delta College counselor/advisor, especially in selecting the correct courses for your transfer program. Listed below are several important things to think about as you start evaluating various colleges and universities. You may investigate colleges in Michigan at www.macrao.org or www.michigantransfernet.org.

The **academic climate** of the institution should be explored. Compare your background and abilities with those of the present students at that particular college or university. The transfer institution's admissions staff and your Delta counselor/advisor can be very helpful in this regard. You should carefully read each institution's statement on admissions requirements to be certain you can meet them.

The **program offerings** of the various institutions need to be considered in your decision-making process. If you are interested in a specific field of study, you should look first at colleges and universities offering recognized and accredited programs in that area. Not all colleges/universities offer the same programs of study.

There are **non-academic factors** to consider also in making your college or university choice. How large is the student body? Is campus housing available? What is the nature of the community in which the school is located and how far is it from home? Does the institution provide the environment and opportunity for the types of extracurricular activities that you enjoy (e.g., sports, arts, student government)? Where and what types of jobs are their graduates getting and what type of placement services do they provide? Be sure to get answers to questions like these through visits to the campus, by looking at the catalog on the college/university's homepage on the Internet, or by talking to current students at the college/university. This information can help you choose an institution that fits your personal interests.

Your investigation should also include a thorough review of the **cost** of the college or university being considered. Usually the basic educational expenses for an academic year can be determined from an institution's current catalog. Then, add on amounts for such items as personal expenses and room and board to come to a total that will realistically reflect your overall costs.

Last, but certainly not least, are the respective **application procedures for admission and financial aid**. You must submit all required admissions forms correctly and on time if you want full consideration. You must also submit all financial aid forms correctly and on time. The schools often make their decisions about admission and financial aid soon after the deadline. They must decide on the basis of the material that they have in hand, so it is to your advantage to be prompt and accurate. Many Michigan institutions charge an admissions application fee and all have specific deadline dates by which your application and other necessary credentials (required test scores, high school and college transcripts) must be received.

Transfer Degree Requirements

Each institution of higher education has its own requirements for admission, majors, general education, and so on. These requirements are stated in the college/university's official catalog, bulletin, or on its website. Usually credits are defined as semester hours but some colleges and universities use the term or quarter hour system. To earn a Bachelor's degree, you will generally be required to fulfill the following:

- **Credit requirements.** Minimum number of credits, typically 120 to 130 semester credits for a Bachelor's degree.
- **General Education requirements.** Minimum number of credits earned in each of certain broad groups of courses, such as the humanities, the social sciences, the physical or natural sciences, and mathematics. Some institutions refer to these as distribution or core requirements.
- **Level requirements.** Minimum number of credits earned in courses on such levels as introductory, intermediate, and advanced, or in specific numbered levels of courses such as 300 and 400, commonly referred to as junior and senior-level courses.
- **Major or concentration requirements.** Minimum number of credits earned in a subject area of specialization (i.e., English, chemistry, business administration) for the degree. About one-fourth of the total number of credits required for a degree must be in the major or field of concentration.
- **Minor requirements.** Minimum number of credits earned in a second subject of concentration/specialization. Generally the number of credits required is about half to two-thirds required for a major. Not all degrees require you to declare a minor.
- **Residence requirements.** Minimum number of credits earned in attendance at the institution which is granting the degree (as opposed to transfer credits earned at another college/university). This is not to be confused with residency which refers to where one lives.
- **Elective requirements.** Minimum number of credits earned in optional courses that the student chooses.
- **Grade requirements.** Minimum cumulative grade point average (GPA) of grades earned in all courses taken and often, in all courses taken in the major and/or minor. Some colleges and universities also require a minimum grade in specific courses.
- **Specific subject requirements.** Examples include: freshman-level English composition; mathematics; science; two years of foreign language as demonstrated on a specified examination; and computer literacy.

Transfer and Career Education Articulations



Transfer programs of study are designed for students who have earned at least 62 credits at Delta College and then transfer to a four-year college or university. Articulation guides for the following colleges and universities are available at the Delta College Articulation Office web page below. The universities below have signed an articulation agreement with Delta College to guarantee a smooth transition.

On the Web: www.delta.edu/artic

Delta College Program (Code)	University – Program (Degree)
Accounting (ABS.10172)	Colorado State University Global Campus - Accounting (BS) Davenport University - Accounting (BBA) - Accounting Fraud Investigation (BBA) - Finance (BBA) - Professional Accountancy (BBA/MBA) Northwood University - Accounting (BBA) - Finance (BBA) *BU, EMU, FSU, FU, KU, SAU, SHU, SVSU
Alternative Energy-Wind Turbine Technology (AAS.15805)	*BU, DU, EMU, FSU, FU, KU, NU, SAU
Architectural Technology (AAS.15872)	University of Detroit Mercy - Architecture (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Art & Design (AFA.40380)	Central Michigan University - Fine Arts (BFA) College of Creative Studies - Fine Arts (BFA) *BU, FSU, FU, KU, NU, SAU
Automotive Service Education Program (AAS.60842)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU
Automotive Service Technology (AAS.15844)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU
Chemical Processing Technology (AAS.15829)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Chemical Technology (AAS.15464)	Central Michigan University - Chemistry (BS) Eastern Michigan University - Polymers & Coatings (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Child Development (AAA.25762)	Ferris State University - Early Childhood Education (BS) *BU, DU, FSU, FU, KU, NU, SAU, SVSU
Computer Science & Information Technology (Business & Information Technology ABS.10130) (Network Administration AAS.17135) (IT Support AAS.17136) (Programming AAS.17137) (Web Information Technology AAS.17138) (Information Security & Technology AAS 17165) - Criminal Technology (CT) - Financial Security (FS) - Information Assurance (IA)	Capitol College - Information Assurance (BS) Colorado State University Global Campus - Information Technology (BS) Davenport University - Computer Information Systems (BS) - Computer Science (BS) - Database Systems and Programming (BS) - Digital Forensics (BS) - Information Assurance (BS) - Network Management and Design - Network Security (BS) - Technology Project Management (BS) Eastern Michigan University - Information Assurance (BS) Northwood University - Computer Information Management (BBA) - Management Information Systems (BBA) *BU, EMU, FSU, FU, KU, SAU, SHU, SVSU
Construction Management (AAS.15875)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Criminal Justice (Basic Police Training - AAA.25725) (Corrections - AAA.25726) (Law Enforcement - AAA.25727) (Loss Prevention Specialist - AAA.25723)	Davenport University - General Business (BBA) Ferris State University - Criminal Justice (Options - Corrections, Law Enforcement, and Law Enforcement with Basic Police Training) (BS) University of Phoenix - Criminal Justice Administration Management (BS) *BU, EMU, FSU, FU, KU, NU, SAU, SHU

Dental Hygiene (AAS.20515)	Ferris State University - Allied Health Sciences (BS) University of Detroit Mercy - Dental Hygiene (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Electrical Utility Worker (AAS.15813)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU
Electronic Media/EM (AAA.15340)	Ferris State University - Television & Digital Media Production (BS) Northern Michigan University - Media Production and New Technology (BS) *BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Environmental Technology (AAS.15466)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Fire Science (AAS.25731-25736)	Colorado State University Global Campus Public Management (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Health Fitness Specialist (AAS.25710)	Central Michigan University - Health Fitness (Clinical, Health Fitness & Kinesiology) (BS) Ferris State University - Allied Health Sciences (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
HVACR Service Technology (AAS 15890)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Industrial Technology Education (AAS.15710)	Saginaw Valley State University - IT Education (BAS with secondary teaching certificate) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Legal Support Professional (ABS.10282)	Eastern Michigan University - Paralegal Studies (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Management (ABS.10251 - Cosmetology) (ABS.10254 - General) (ABS.10256 - Marketing) (ABS.10258 - Office Services) (ABS.10260 - Retail) (ABS.10262 - Entrepreneurship/Small Business)	Colorado State University Global Campus - Business Management (BS) - Marketing (BS) Davenport University - Human Resources Management (BBA) - International Business (BBA) - Management (BBA) - Marketing (BBA) - Sports Management (BBA) Eastern Michigan University - (Business Administration with approved Business major) (BBA) Kettering University - Management (BS) Northwood University - Accounting (BBA) - Advertising & Marketing (BBA) - Aftermarket Management (BBA) - Automotive Marketing & Management (BBA) - Computer Information Management (BBA) - Entertainment, Sport & Promotion Management (BBA) - Entrepreneurship (BBA) - Fashion Marketing/Management (BBA) - Hospitality Management (BBA) - International Business (BBA) - Management (BBA) - Management Information Services (BBA) - Marketing (BBA) Siena Heights University - Administration (BBA) Walsh College - Management (BBA) *BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Manufacturing and Industrial Technology (AAS.15851)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Mechanical Engineering Technology (AAS.15822)	Michigan Technological University - Mechanical Engineering Technology (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Medical Office Professions/Medical Administrative Assistant (ABS.10288)	Davenport University - Health Information Management (BBA) - Medical Case Management (BBA) *BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Nursing RN (AAS.20564)	Concordia University - Nursing (BSN) Davenport University - Nursing (BSN) Ferris State University - Allied Health Sciences (BS) - Nursing (BSN) Franklin University - Nursing (BS)

	Saginaw Valley State University - Nursing (BSN) University of Detroit – Mercy – Nursing (BSN) University of Michigan-Flint - Nursing (BSN) University of Phoenix - Nursing (BSN) *BU, EMU, FSU, FU, KU, NU, SAU, SHU
Office Professions (Administrative Assistant – ABS.10296) Physical Therapist Assistant(AAS.20573)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU Ferris State University - Allied Health Sciences (BS) *BU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Radiography (AAS.20545)	Ferris State University – Allied Health Sciences (BS) University of Michigan – Flint - Radiation Therapy (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Residential Construction (AAS.15887) Respiratory Care (AAS.20579)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU Ferris State University - Allied Health Sciences (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Skilled Trades (AAS.60891) Sonography, Diagnostic Medical (AAS.20547)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU Ferris State University - Allied Health Sciences (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Surgical Technology (AAS.20549)	Ferris State University - Allied Health Sciences (BS) *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Water Environment Technology (AAS.15827) Welding Engineering Technology (AAS.60897)	*BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU *BU, DU, EMU, FSU, FU, KU, NU, SAU, SHU, SVSU
Associate in Arts (AA. 40000)	Alma College – Health Care Administration Central Michigan University – Art (BFA) Business Administration (BS) - Elementary Education (BS) - Integrated Leadership Studies (BS) - Journalism (BS) - Political Science (BS) - Psychology (BS) - Secondary Educational (BS) Ferris State University - Business Administration (BS) - Elementary Education (Language Arts & Math Minors , Social Studies major and Early Childhood (ZS) Endorsement for Certified Teachers) Kettering University - Business Administration (BS) Northwood University - Economics (BBA) Saginaw Valley State University - Elementary Education (BS) University of Detroit Mercy - Liberal Arts (BS) University of Michigan - Flint - Business Administration (BS) *BU, FSU, FU, KU, NU
Associate in Science (AS. 40000)	Alma College - Biology (BS) - Environmental Science (BS) - Health Care Administration (BS) Central Michigan University - Chemistry (BS) - Electric Engineering (BS) - Mechanical Engineering (BS) - Meteorology with CS & Mathematics Minors (BS) Kettering University - Applied Mathematics (BS) - Business Administration (BS) - Chemistry & Biotechnology (BS) - Computer Science (BS) - Engineering (BS) - Physics (BS) Michigan State University -Agricultural Operations (Institute of Ag Tech Certificate) - Fruit and Vegetable Crop Management (Institute of Ag Tech Certificate) Northwood University - Business Administration (BBA) Palmer College of Chiropractic University of Michigan - Flint - Physical Therapy (BS) - Radiation Therapy (BS) University of Detroit Mercy - Engineering (B) *BU, FSU, FU, KU, NU

Community College Agreements

As a member of the Michigan Community College Association, Delta College partners with other community colleges to provide effective short-term transfer programs. Discussion continues with many other community colleges. Current partnerships include:

Delta College Program (Code)	University - Program (Degree)
Chemical Process Technology (AAS.15829)	Alpena Community College - Chemical Process Technology (AAS) Bay de Noc College - Chemical Process Technology (AAS) Mid Michigan Community College - Chemical Process Technology (AAS)
Criminal Justice, Law Enforcement (AAA.25727)	Alpena Community College - Law Enforcement with Basic Police Training (AAS) Mid Michigan Community College - Law Enforcement with Basic Police Training (AAS)
Dental Hygiene Clinicals (AAS.25015)	Alpena Community College - Dental Hygiene Clinicals
Maritime Deck or Maritime Engineering Officer	Ferris State University - Business Administration (BS)
Water Engineering Technology (AAS.15827)	Northwestern Michigan College, Great Lakes Maritime Academy Grand Rapids Community College - Water Engineering Technology (AAS)

* KEY to articulation information with select colleges/universities:

(BU) Bellevue University - Specific Delta College associate degree, up to 82 credits, will transfer into one of 30 accelerated bachelor's degree completion programs. All BU courses can be taken online.

(DU) Davenport University - Specific associate degree programs from Delta College will transfer and apply to either a 2+2 or 3+1 bachelor degree program.

(EMU) Eastern Michigan University - Approved technical programs at Delta College will transfer as a 3+1 to Eastern Michigan University and will apply toward a Bachelor of Science in Technology Management.

(FSU) Ferris State University - Any Delta College associate degree with a GPA of not less than 2.0 on a 4.0 scale may be transferred; qualified students may transfer all credits in the associate degree toward the bachelor degree. Another option is the Business Administration Professional Track. A completion degree for students with coursework with a professional or occupational emphasis. Requires 2.35 overall GPA. ENG 111 and MTH 119 or minimum testing scores. Refer to agreement for further details.

(FU) Franklin University - A Delta College associate degree plus 20-24 credits from a recommended list may be transferred. FU courses may be taken online.

(KU) - Kaplan University - Students having completed an associates degree program (AA, AAS, AS, or specialized associate degrees) will be eligible for a block transfer and acceptance into Kaplan's "advanced start" baccalaureate option.

(NU) Northwood University - This university will accept any associate degree from Delta College and apply the credits to either a 2 + 2 or 3 + 1 program for a Bachelor of Business Administration with a major in management.

(SAU) Spring Arbor University - A maximum of 84 credit hours may be transferred from Delta College and applied toward a Bachelor of Arts in Family Life Education, a Bachelor of Social Work, or a Bachelor of Science in Organizational Management. Classes are offered in the Great Lakes Bay Region.

(SHU) Siena Heights University - Delta AA, ABS and AAS degrees will transfer and apply to a 3+1 Bachelor of Applied Science or Bachelor of Business Administration program.

(SVSU) Saginaw Valley State University - Specific technical associates degree programs at Delta College will transfer and apply to a Bachelor of Applied Studies degree. Additional basics and a minor are required to complete the bachelor degree. (Pertains only to Career Education Articulations.)

(UM-F) University of Michigan - Flint - The AA degree program in Business Administration Delta College will transfer to the University of Michigan - Flint and will apply toward a Bachelor of Business Administration program.

(WC) Walsh College - A maximum of 82 credit hours may be transferred towards a Bachelor of Business Administration degree with majors in Business Information Technology and Management, or a Bachelor of Science in Business Information Technology. Honors Fast Track students may transfer up to 87 credits towards the BBA/MBA program.

Academic Programs



Career Education Mission Statement

Delta College's Career Education Programs provide core knowledge, skills and learning experiences that prepare students for successful entry and advancement in careers, baccalaureate institutions, and global opportunities.

Many educational programs offered at Delta College are designed to prepare you for immediate employment in the job market. The career education curricula provides you with the necessary skills and knowledge required for entry-level positions in career fields. In addition, most programs are diversified sufficiently to create some social and economic awareness. Attending full time, you can complete most certificate programs in one year and the majority of associate degree programs in two years.

Most career education programs are not specifically designed for transfer purposes to baccalaureate degree-granting institutions. Transfer of all credits earned should not be expected.

In some programs, credits earned in career education programs may be transferable into a baccalaureate degree program at a four-year college or university; however, these programs are not designed specifically to parallel the first two years of university study. You should consult with your Delta counselor and the Admissions Office of the college or university into which you wish to transfer.

Terms Used in this Section

Certificate: A certificate is awarded for the completion of various career education curricula. Most certificates prepare you for specific jobs or aspects of a job. Some certificates are part of an associate degree program, in which case the credit earned in the certificate may be used toward the associate degree.

Certificate of Completion (C) - less than 6 credits

Certificate of Achievement (Z) - 6 to 23 credits

Advanced Certificate (A) - 24 or more credits

Post Associate Certificate (P) - beyond associate's level with 6 or more credits.

Applied Associate Degree: The degree is broader in scope than the Certificate and includes a varying number of general education and support courses.

AAS - Associate in Applied Science

AAA - Associate in Applied Arts

ABS - Associate in Business Studies

AFA - Associate in Fine Arts

DE (Dual Degree)-AAS & ABS

Electives: These are courses applicable toward a degree or certificate which may be chosen to meet your individual interests and needs.

Many courses in these Programs have prerequisites. See Section VI, Course Descriptions for prerequisite information.

Program Title	Associate Degree	Certificate	Page
Academic Career Experience		CBZ.35100 (Z)	39
Accounting	ABS.10172	CBA.35172 (A)	40
Alternative Energy - Wind Turbine	AAS.15805		43
Architectural Technology	AAS.15872		45
Art + Design	AFA.40380		47
Associate in Arts	AA.40000		49
Associate in Science	AS.40000		51
Automotive Service Educational Program (ASEP)	AAS.60842		53
Automotive Service Technology	AAS.15844	CTA.35845 (A)	55
Chemical Process Technology	AAS.15829	CSA.35835 (A)	61
Chemical Technology	AAS.15464		64
Child Development	AAA.25762	CSA.35763 (A)	67
Educational Paraprofessional Communication		CSZ.35763 (Z)	66
Interpersonal		CSZ.35325 (Z)	70
Presentational		CSZ.35326 (Z)	71
Computer Aided Drafting		CTA.35865 (A)	72
Computer Numerical Control		CTA.35864 (A), CTZ.35866 (Z)	73
Computer Science & Information Technology			
Business & Information Technology (BIT)	ABS.10130	CBA.35131 (A)	76
Information Security & Technology (IST) / Criminal Technology	AAS.17165	CTP.35165 (P)	79
Information Security & Technology (IST) / Financial Security	AAS.17170	CTP.35170 (P)	84
Information Security & Technology (IST) / Cyber Security	AAS.17172		82
Network Administration	AAS.17135	CTA.35135 (A)	87
IT Support (IT)	AAS.17136	CTA.35136 (A)	91
Programming (PROG)	AAS.17137		94
Web	AAS.17138	CTA.35138 (A)	96
Construction Management	AAS.15875		99
Criminal Justice:			
Corrections	AAA.25726	CSZ.35724 (Z)	101
Corrections with Jail Officers Academy		CSZ.35726 (Z)	102

Program Title	Associate Degree	Certificate	Page
Law Enforcement	AAA.25727		105
Law Enforcement with Basic Police Training	AAA.25725	CSZ.35725 (Z)	107
Security/Loss Prevention Specialist	AAA.25723	CSZ.35723 (Z)	110
Dental Assisting	AAS.20510	CHA.35512(A)	113
Dental Hygiene	AAS.20515		121
Diagnostic Medical Sonography	AAS.20547	CHA.35545 (A)	126
Digital Film Production		CEA.35330 (A)	134
Dual Degrees			
Automotive Service Technology/General Management	DE.30844		59
Dental Assisting/General Management	DE.30518		119
Dental Hygiene/General Management	DE.30519		124
Diagnostic Medical Sonography/General Management	DE.30547		132
Health Fitness Specialist/General Management	DE.30710		170
Nursing/General Management	DE.30569		227
Physical Therapist Assistant/General Management	DE.30575		247
Radiography/General Management	DE.30546		258
Respiratory Care/General Management	DE.30578		266
Surgical Technology/General Management	DE.30550		319
Electrical Utility Worker	AAS.15813		136
Electrical Utility Substation Worker		CTA.35811 (A)	135
Electronic Media (EM)	AAA.15340		138
Environmental Technology	AAS.15466	CSA.35467 (A)	141
Fire Science Technology :			
Emergency Medical Services	AAS.25732		146
Fire & Industrial Loss Prevention Officer		CTA.35732	152
Fire Fighter Technician	AAS.25736		149
Fire Investigation/Prevention	AAS.25734		153
Fire Science Technology	AAS.25731		144
Industrial/Commercial Security & Safety	AAS.25733		156
Leadership & Training	AAS.25735		159
Global Peace Studies	AA.40000	CSZ.35400 (Z)	162
Group Fitness Instructor		CSA.35740 (A)	167
Health Fitness Specialist	AAS.25710		168
Health Foundations		CHA.20530	172
Heavy Duty Diesel	AAS.15848		174
HVACR			
Air Conditioning		CTA.35891(A)	175
Commercial Refrigeration		CTA.35890(A)	176
Heating		CTA.35892(A)	177
Service Technology	AAS.15890		178
Industrial Technology Education	AAS.15710		179
International Studies			
With World Language Skills		CSA.35493	180
Without World Language Skills		CSA.35493	182
Journalism and Emerging Media	AA.40000	CEA.35324 (A)	184
Lean Resource Management		CTZ.35851 (Z)	187
Legal Support Professional	ABS.10282		192
Law Office Foundation		CBA.35283 (A)	188
Law Office Specialist		CBA.35284 (A)	190
Liberal Arts		CSA.35390 (A)	194
Management			
Cosmetology Management	ABS.10251		195
Entrepreneurship/Small Business Management	ABS.10262	CBA.35263 (A)	197
General Management	ABS.10254		200
Marketing Management	ABS.10256		202

Program Title	Associate Degree	Certificate	Page
Office Services Management	ABS.10258	CBA.35258 (A)	204
Retail Management	ABS.10260	CBA.35260 (A)	207
Management/Subsequent Degrees:			
Business Management	ABS.10255		210
Northwood 3 + 1	ABS.85005		211
Manufacturing & Industrial Technology	AAS.15851		214
Lean- Quality Manufacturing		CTA.35852 (A)	212
MIT Supervisor		CTZ.35850 (Z)	213
Mechanical Engineering Technology	AAS.15822		216
Mechatronics Technology	AAS.15891	CTA.35913	218
Medical Office Professions			
Health Insurance Coding & Claims Specialist		CBA.35286 (A)	221
Medical Administrative Assistant	ABS.10288		222
Nursing (ADN)	AAS.20564		224
Nursing Transition Track:			
Licensed Paramedic to RN	AAS.20569		229
Licensed Practical Nurse to RN	AAS.20568		232
Office Professions:			
Administrative Assistant	ABS.10296		240
Office Assistant		CBA.35291 (A)	236
Office Specialist		CBA.35292 (A)	238
Office Skills Core		CBZ.35293 (Z)	235
Personal Trainer		CSA.35742 (A)	242
Physical Therapist Assistant	AAS.20573		244
Practical Nurse (PN)		CHA.35563 (A)	249
Professional Studies in Office Administration		CBZ.35297 (Z)	251
Quality Assurance		CTZ.35877 (Z)	253
Quality Management		CTZ.35878 (Z)	254
Radiography	AAS.20545		255
Residential Construction	AAS.15887	CTA.35889 (A)	260
Respiratory Care	AAS.20579		263
Skilled Trades (Apprenticeship)			
Carpenter (Building Trades)	AAS.60900	CTA.35900	268
Electrician	AAS.60901	CTA.35901	271
Jobbing Molder	AAS.60902	CTA.35902	275
Machine Builder	AAS.60903	CTA.35903	278
Machine Repair	AAS.60904	CTA.35904	281
Mechatronics		CTA 35914	284
Millwright	AAS.60905	CTA.35905	286
Pattern Maker	AAS.60906	CTA.35906	289
Pipefitter (Industrial Maintenance)	AAS.60907	CTA.35907	292
Plumber-Pipefitter	AAS.60908	CTA.35908	295
Stationary Boiler Engineering	AAS.60909	CTA.35909	298
Tinsmith	AAS.60910	CTA.35910	301
Tool/Die Maker	AAS.60911	CTA.35911	304
Tool Hardener	AAS.60912	CTA.35912	307
Skilled Trades (Pre-Apprentice)			
Agriculture Maintenance		CTA.35895 (A)	310
Construction		CTZ.35896 (Z)	311
Electrical		CTA.35894 (A)	312
Mechanical		CTA.35893 (A)	313
Surgical First Assistant		CHP.35547 (P)	314
Surgical Technology	AAS.20549	CHA.35547 (A)	315
Water Environment Technology	AAS.15827	CTA.35827 (A)	321
Welding Engineering Technology	AAS.60897	CTA.35899 (A)	324
Writing - General Writing		CEA.35319 (A)	326
Writing - Technical Writing		CEA.35320 (A)	327
Youth Services		CSA.35775 (A), CSZ.35775 (Z)	328

Validation Procedures



Some programs require completion of prerequisites and a validation process before registration in restricted enrollment programs. Currently these programs are:

Health Programs

- Dental Hygiene
- Diagnostic Medical Sonography
- Nursing RN (Full-time and Part-time)
- Nursing Transition Track (Licensed Paramedic or Practical Nursing to RN)
- Physical Therapist Assistant
- Practical Nurse
- Radiography
- Respiratory Care
- Surgical Technology

Application and Validation

1. Complete all prerequisite courses as specified in this catalog. All waivers and incomplete course work must be posted on your transcript prior to application for validation. Transcripts from transfer institutions must be received within two weeks after the semester in which you apply ends.
2. Obtain the Validation Application form from the Registrar's Office, Counseling, or online at www.delta.edu. Other documents may be required, such as observation forms as defined by the particular program. Check for these requirements by contacting your program coordinator.
3. Complete and submit the Validation Application to the Registrar's Office any time during the semester in which you will complete your prerequisites.

You may be validated and eligible for one program only.

4. Registrar's Office personnel will process your completed Validation Application. You will receive the results of your validation evaluation through your Delta email.
5. Validation Applications will be validated only by Registrar's Office staff and processed no later than 30 days after the application deadline.
 - a. Qualified students will be assigned a semester and year of validation which will be entered into the student's computer record (e.g., 16F or 17W or 17S).
 - b. Nonqualified students must submit another Validation Application after successfully completing all required prerequisites and other qualifications.
6. The semester and year of validation will be valid for three years if renewed each year with the Application for Continuation. This form will be mailed to the address on file with the Registrar's Office.

You need to attempt to gain entrance into a program within three years to be maintained on the validation list. If the wait to enter a program exceeds three years, you must gain entry within the earliest possible time frame by attempting to register for program entry in order to be maintained on the validation list. Notification will be sent indicating when you will be dropped from the

validation list.

After your validation eligibility expires, a new Validation Application must be submitted prior to attempting to register for the clinical sequence. You must have successfully completed all prerequisites/qualifications required at the time the new Application is submitted and may require you to take additional or repeat course work to meet the defined requirements of the program.

Delta College reserves the right to modify validation and registration procedures for programs based on demand for enrollment.

Registration

1. A special registration will be held for validated students to enter the restricted enrollment courses of these programs. Check online at www.delta.edu/regis for special registration dates, times, and offerings. Special registrations are usually held in June for Fall semester, and November for Winter semester.
2. For the registration process, every student will waitlist themselves and at the end of the registration period the computer system will rank order students based on several criteria. A cumulative score will be obtained by ranking the semester of validation, grades earned in selected courses as required in your program, residency status, giving preference to in-district students, total credits taken at Delta College, and overall GPA earned at Delta College. If a tie exists, the higher overall GPA will break the tie. Students will be registered based on the computer ranking.

Individual faculty cannot add to published course capacity by accepting first-time enrolled students as overloads.

3. Each validation program semester and registration must be certified before being considered official.
4. Students not making payment by the due date (same as the first due date specified for all other students participating in registration) or voluntarily cancelling will be deleted from courses.
5. Open positions that result from the above deletions or cancellations will be filled by students on the registration waiting list.
6. Students will retain their validation through the first week of class and may not validate for another program during this time. After the first week of class, students who remain in the program, as well as students who drop, lose their validation and must resubmit a new Validation Application Form.

Special Health Program Procedures

1. Repeat students will be admitted in compliance with program re-entry procedures as outlined in specific program handbooks.
2. After completion of the special registration, registered students may be required to attend clinical orientation sessions. Alternates may be invited to these sessions. Orientation information is listed online at www.delta.edu.
3. You are responsible for completing all clinical courses and requirements in effect on the day the clinical sequence begins.

Academic Program Guides

Academic Career Experience - Certificate of Achievement

Program Code: CBZ.35100

Academic Career Experience (ACE), commonly known as "Cooperative (Co-op) Education," is an excellent example of a working partnership between employers and an educational institution. This integration of practical experience and academics results in a win-win situation for the student, the employer, and the College. Delta has long recognized the value of practical work experience to strengthen college programs and enhance student education.

Co-op is an academic program providing current Delta students the opportunity to gain valuable, real-life work experience related to their academic or career goals. The ACE Office will help students arrange part-time work schedules to accommodate their full- or part-time class schedules. Participating in co-op requires a one-year commitment from both the employer and the student. Students are required to work a minimum of 180 hours per semester (about 12 hours a week).

Participating in co-op benefits students in numerous ways:

- * Allows students to earn college credit while getting paid
- * Helps students gain hands-on work experience relevant to career goals
- * Establishes valuable professional contacts, which broadens job opportunities after graduation
- * Assists students in gaining professional work experience to build resume
- * Allows students to participate in ACE courses, which provide ongoing professional development
- * Provides a safe worksite free from discrimination and harassment
- * Encourages mentoring on a daily basis from professionals in the workplace
- * Offers varying work assignments and increasing complexity of work activities

Required Courses

Course	Credits	Course Title	Completed
ACE 101W	2	Career Professional Development I	_____
AND			
ACE 102W	2	Career Professional Development II	_____
AND			
ACE 201W	2	Career Work Experience - Business & Human Services OR	_____
ACE 202W	(2)	Career Work Experience - Communications & Sciences OR	_____
ACE 203W	(2)	Career Work Experience - Health OR	_____
ACE 204W	(2)	Career Work Experience - Technical & Industrial OR	_____
6	TOTAL FOR CERTIFICATE OF ACHIEVEMENT		
6	MINIMUM TOTAL CREDITS REQUIRED FOR CERTIFICATE OF ACHIEVEMENT		

1. To qualify for the program, all applicants must:
 - a. Have a minimum of one year of studies remaining at Delta College before graduating or transferring.
 - b. Be willing to make a minimum one-year commitment to an Academic Career Experience work assignment.
 - c. Be a currently enrolled student at Delta College.
 - d. Complete the online application process through the Academic Career Experience & Service Learning website, www.delta.edu/ace_sl.
 - e. Enroll in and successfully complete the required ACE courses once hired into an approved Academic Career Experience worksite.
2. All classes must be completed with a grade of "B" (3.0) or better.
3. Credit can be earned in ACE 201W, ACE 202W, ACE 203W or ACE 204W but not more than two courses (4 credits).
4. All classes are key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Accounting - Advanced Certificate

Program Code: CBA.35172

This certificate is designed to prepare students for an entry-level job in accounting. Tasks will involve keeping records of day-to-day business transactions, making entries in account ledgers, monitoring cash receipts and disbursements, processing appropriate budgetary costing procedures, and preparing materials needed for financial reports.

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Financial Accounting	_____
ACC 212	4	Principles of Managerial Accounting	_____
ACC 214	3	Microcomputer Accounting Applications	_____
ACC 227W	4	Intermediate Accounting I	_____
ACC 229	2	Practical Intermediate Accounting	_____
ACC 230	2	Operational Business Taxes	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 155	3	Microsoft EXCEL	_____
MGT 153W	3	Introduction to Business	_____
OAT 151	3	Business Communication I	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF THE ACCOUNTING ASSOCIATE OF BUSINESS STUDIES DEGREE

32 TOTAL CREDITS REQUIRED

1. A grade of "C" (2.0) or higher is required in ACC 211, ACC 212, ACC 214, ACC 215W, ACC 227W, ACC 228W, ACC 229, ACC 230, ACC 233, CST 133W, and OAT 151.
2. Proficiency in keyboarding is expected in many classes. OAT 170 is available for those students who need to build keyboarding skills. Proficiency exams are available for OAT 170.
3. Students are highly encouraged to take ACC 212 and ACC 214 at the same time.
4. ACC 229 and ACC 230 must be taken concurrently.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Accounting - Advanced Certificate**

Accounting - Advanced Certificate

Total Program Cost (In District):	\$5,419.50
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	\$0.00

Accounting - Associate in Business Studies

Program Code: ABS.10172

The accounting degree in either track is designed to provide you with the knowledge and skills for entry level positions which require performing accounting functions. Complexity of work and level of responsibility will vary with the level of education attained. You may follow either Track.

Track 1: This track is designed to provide the skills to be an accounting assistant. Complexity of the work will vary with the size and volume of the employee's activities and the firm's procedures. Most starting jobs will involve tasks such as keeping records of day-to-day business transactions, making entries in account ledgers, monitoring cash receipts and disbursements, processing appropriate budgetary costing procedures, and preparing materials needed for financial reports. As you gain experience, you may assume more accounting responsibilities which could involve analyzing financial reports and advising management.

Track 2: This track is designed to provide a basic foundation for entry level positions and is suggested for students who may pursue a professional accounting career with leadership/management potential. You should follow this track if you plan to transfer to a 4-year college or university. Consult with a counselor and refer to www.delta.edu/artic for transfer programs.

Degree Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
ECN 221W	4	Principles of Macroeconomics	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
PHL 203W	3	Business Ethics OR	_____
PHL 213W	(3)	Introduction to Ethics	_____
POL ---	3/4	Any Approved Government Requirement	_____
21/25		SUBTOTAL	

Suggested Electives (Choose at least 3 credits)

Course	Credits	Course Title	Completed
ACC 216W	2	Volunteer Income Tax Assistance (VITA)	_____
ACC 235	3	Financial Management	_____
ACE ---	1-3	Academic Career Experience	_____
CJ 110W	3	Introduction to Criminal Justice	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 235	3	Systems Analysis and Design	_____
CST 257	3	Database MS Access	_____
ECN 222W	4	Principles of Microeconomics	_____
3/4			

Track 1 Core Requirements

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Financial Accounting	_____
ACC 212	4	Principles of Managerial Accounting	_____
ACC 214	3	Microcomputer Accounting Applications	_____
ACC 227W	4	Intermediate Accounting I	_____
ACC 229	2	Practical Intermediate Accounting	_____
ACC 230	2	Operational Business Taxes	_____
ACC 233	3	Managerial Cost Accounting	_____
ACC 235	3	Financial Management	_____
ACC 285	2	Professional Accounting Careers	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 155	3	Microsoft EXCEL	_____
MGT 110	3	Business Mathematics	_____
MGT 153W	3	Introduction to Business	_____
40	SUBTOTAL		

Track 2 Core Requirements

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Financial Accounting	_____
ACC 212	4	Principles of Managerial Accounting	_____
ACC 214	3	Microcomputer Accounting Applications	_____
ACC 215W	3	Federal Tax Accounting	_____
ACC 227W	4	Intermediate Accounting I	_____
ACC 228W	4	Intermediate Accounting II	_____
ACC 233	3	Managerial Cost Accounting	_____
ACC 285	2	Professional Accounting Careers	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 155	3	Microsoft EXCEL	_____
MGT 153W	3	Introduction to Business	_____
MGT 251W	3	Business Law I	_____
MTH---	3/4	Any Approved College Level Math Requirement	_____
43/44	SUBTOTAL		

64/73 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in ACC 211, ACC 212, ACC 214, ACC 215W, ACC 227W, ACC 228W, ACC 229, ACC 230, ACC 233, CST 133W, OAT 151, OAT 152 (or ENG equivalents).
2. ACC 214, ACC 227W, ACC 229, ACC 230, ACC 233, ACC 235, and ACC 285 are key courses and must be completed within 5 years.
3. For those students taking ACC 211, a math level of 4 is a required prerequisite. This can be obtained through COMPASS testing, by successfully completing MTH 097, or by earning a B- or better in MGT 110.
4. Both Tracks prepare you for a career upon graduation from Delta College. If you plan to transfer to a four-year college or university other than Northwood University, you should follow Track 2, use a Business Administration program guide, and consult a counselor. Be sure to check with your transfer school for transferability of courses.
5. COM 112 is required for the 2-year program. Students enrolled in the Northwood 3+1 program may take COM 112 or COM 114.
6. OAT 151 must be completed for the degree. ENG 111 and ENG 112; or ENG 111 and ENG 113 may be substituted for OAT 152.
7. Students are highly encouraged to take ACC 212 and ACC 214 at the same time.
8. Proficiency in keyboarding is expected in many classes. OAT 170 is available for those students who need to build keyboarding skills. Proficiency exams are available for OAT 170.
9. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
10. Delta College reserves the right to modify graduation requirements.

Alternative Energy - Wind Turbine Technology - Associate in Applied Science

Program Code: AAS.15805

The Associate Degree Program in Alternative Energy/Wind Turbine Technology prepares you for employment as a wind turbine technician. Duties of a wind turbine technician include operating and maintaining giant wind turbine units, performing mechanical and electrical troubleshooting, as well as repair and preventative maintenance. This technician uses computers and has an understanding of hydraulics, electricity, algebra, and meteorology. Working about 250 feet above the ground requires this professional to set aside any fears of heights. Teamwork is key to success in this position where safety and a smooth-running work environment are critical.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3/5	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
LW 223W	2	Wellness in Technical Trades	_____
MTH 119W	4	Intermediate Algebra	_____
GEO 103W	4	Introduction To Meteorology	_____
POL ---	3/4	Any Approved American Government Requirement	_____
19/22	SUBTOTAL		

Basic Program Requirements

Course	Credits	Course Title	Completed
CST 133W	4	Computer Concepts & Competencies	_____
CST 160	3	Networking Essentials	_____
ET 100	2	Electrical Calculations	_____
ET 110	2	DC Circuits	_____
ET 120	2	AC Circuits	_____
ET 122	5	Programmable Logic Controllers	_____
ET 130	3	Conventional Controls	_____
ET 136	2	Grounding	_____
ET 140	4	Motor Controls and Drives	_____
MIT 118	2	Safety Practices and Procedures	_____
MT 151	3	Power Transmission	_____
MT 161	2	Industrial Rigging	_____
MT 215	3	Introduction to Composite Materials	_____
MT 220	3	Hydraulics & Pneumatics I	_____
40	SUBTOTAL		

Wind Turbine Technology Courses

Course	Credits	Course Title	Completed
WTT 100	3	Introduction to Wind Energy	_____
WTT 110	2	Climb Safety and Rescue Safety Training	_____
WTT 120W	3	Wind Turbine Mechanical Systems	_____
WTT 230	1	Wind Turbine Schematics	_____
WTT 240	2	Power Generation, Transmission, and Distribution	_____
WTT 280	3	Fundamentals of Data Acquisition	_____
14	SUBTOTAL		

73/76 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. A grade of "C" (2.0) or higher is required in all courses for the degree.
2. Student is responsible for equipment, tools, and gear as required. Cost may exceed \$200. Equipment for WTT 110 includes all-leather work gloves, OSHA approved safety glasses and safety work boots.
3. Students will be responsible for completing a Student Physical Examination Form prior to the first day of WTT 110 class. The examination form can be obtained from Counseling or the WTT Program Coordinator.
4. Due to industry standards related to safety equipment, student weight must not exceed 250 lbs.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.

See page 337 for other graduation requirements.

6. Delta College reserves the right to modify graduation requirements.

Architectural Technology - Associate in Applied Science

Program Code: AAS.15872

As an Architectural Technician, you may assist licensed architects, construction engineers, urban planners and other design personnel in most phases of the development of building or site projects. This program has an emphasis on job entry skill development for employment in occupations such as: draftsman, for installation and shop drawings; building appraiser for financial institutions or real estate firms, estimator or supervisor for contractors; inspector for government agencies.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
MTH---	3/4	Any Approved Intermediate Algebra Course or Higher	_____
14/16	SUBTOTAL		

Core Program Requirements

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	_____
ARC 111	3	Mechanical and Electrical Systems for Buildings	_____
ARC 204	3	Estimating Building Construction	_____
ARC 211	2	Elements of Structural Design	_____
ARC 221	3	Site Preparation	_____
RC 101	3	Construction Print Interpretation	_____
TTI 110	2	Sustainable Building Principles	_____
19	SUBTOTAL		

Successful completion of the Core Program courses prepare the student for completing the Architectural Technology Associate Degree, the Construction Management Associate Degree, or the Residential Construction Degree. Please refer to the catalog page for the relevant Program Requirement Courses.

Architectural Technology Program Requirements

Course	Credits	Course Title	Completed
ARC 105	4	Architectural Drafting I	_____
ARC 106	4	Architectural Drafting II	_____
ARC 114	3	Architectural AutoCAD 2D Basics	_____
ARC 205	3	Architectural Drafting III	_____
ARC 206	3	Architectural Drafting IV	_____
ARC 214	3	Architectural AutoCAD 3D Basics	_____
ARC 224	3	Building Information Modeling	_____
ART 111	3	Drawing I	_____
ART 251W	3	Architectural History	_____
29	SUBTOTAL		

Approved Electives (Choose one or two courses totaling a minimum of 3 credits)

Course	Credits	Course Title	Completed
ART 107	3	Elements of Photography	_____
ART 101	3	Photography I	_____
ART 221	3	Photography II	_____
ART 112	3	Drawing II	_____
ART 115	3	Two-Dimensional Design	_____
ART 116	3	Three Dimensional Design	_____
ART 206	3	Digital Photography	_____
CST ---	1/4	Any Computer Science & Information Technology Course	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
MGT 145	3	Principles of Sales	_____
MGT 153W	3	Introduction to Business	_____
MGT 251W	3	Business Law I OR	_____
ENT 221W	(3)	Law for Entrepreneurs	_____
MTH ---	3/4	Any Math Course (121 or higher)	_____
RC ---		Any Residential Construction Course that is not co-listed	_____
3/4		SUBTOTAL	
65/67		TOTAL CREDITS	

1. A grade of "C" (2.0) or higher is required in ARC 101, ARC 106, ARC 205, ARC 206, ARC 211.
2. Courses ARC 105, 106, 205, 206 must be taken in sequential order. For information about day and/or evening availability of courses, contact a technical career counselor.
3. This program prepares you for a technical level career, but some courses are transferable to baccalaureate degree programs in Architecture. If you want to be an architect, you are advised to consult with a counselor about transfer requirements.
4. Students planning to transfer should take any approved College Composition II requirement.
5. Any MTH 119 or higher (except MTH 153) meets the Math requirement for this program.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Art + Design - Associate in Fine Arts

Program Code: AFA.40380

The Associate in Fine Arts Degree is awarded to Art + Design program students who successfully complete the required 62-credit minimum course of study. The program and degree are designed to prepare you for entry-level jobs and/or to successfully transfer into Bachelor of Arts (BA) or Bachelor of Fine Arts (BFA) degree programs. The chronologically sequenced courses provide a balance of art history, art studio, design studio, graphic design and MTA approved general education courses.

Delta's AFA degree Art + Design program constructs a solid foundation for professional or further academic pursuits in: advertising, animation, art criticism and theory, art education, art history, ceramics, digital media, drawing, graphic design, fashion design, furniture design, illustration, industrial design, interactive and multimedia graphics, painting, photography, printmaking, product design, sculpture, textile design, transportation design, visual communications, web design, or a wide variety of related visual fields.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
---	1	Any Approved Humanities other than ART (MACRAO)	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW 221W	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement AND	_____
---	4/5	Any Approved Social Science Requirement Other than POL	_____
---	8	Approved Natural Science Credits with one lab course	_____
	25	SUBTOTAL	

Required Courses - A - (Recommended for First Semester)

Course	Credits	Course Title	Completed
ART 111	3	Drawing I	_____
ART 115	3	Two-Dimensional Design	_____
ART 151W	3	Art History and Appreciation I	_____
	9	SUBTOTAL	

Required Courses - B - (Recommended for Second Semester)

Course	Credits	Course Title	Completed
ART 112	3	Drawing II	_____
ART 116	3	Three-Dimensional Design	_____
ART 152W	3	Art History and Appreciation II	_____
	9	SUBTOTAL	

Required Courses - C - (Recommended for Third and Fourth Semesters)

Course	Credits	Course Title	Completed
---	0-21	Art History Courses	_____
---	0-21	Ceramics & Sculpture Studio Courses	_____
---	0-21	Digital Media-Graphic Design-Photography Studio Courses	_____
---	0-21	Drawing & Painting Studio Courses	_____
---	0-3	Specialty Art Courses	_____
	19/21	SUBTOTAL	

Choose 19-21 credits from the following option lists to meet "Required Courses - C" above

Art History Course Options

Course	Credits	Course Title	Completed
ART 251W	3	Architectural History	_____
ART 255W	3	Contemporary Art History	_____
ART 256W	3	Art History Travel	_____

Ceramics-Sculpture Studio Course Options

Course	Credits	Course Title	Completed
ART 222	3	Sculpture	_____
ART 231	3	Ceramics I	_____
ART 232	3	Ceramics II	_____

Digital Media-Graphic Design-Photography Studio Course Options

Course	Credits	Course Title	Completed
ART 201	3	Introduction to Graphic Design	_____
ART 224	3	Photography	_____
ART 241	3	Graphics Studio 1	_____
ART 242	3	Graphics Studio 2	_____
ART 243	3	Graphics Studio 3	_____
ART 284	3	Typography	_____
ART 286	3	Digital Animation	_____

Drawing-Painting Studio Course Options

Course	Credits	Course Title	Completed
ART 210	3	Figure Drawing	_____
ART 217	3	Painting I	_____
ART 218	3	Painting II	_____
ART 220	3	Mural Painting	_____

Specialty Course Options

Course	Credits	Course Title	Completed
ART 113	3	Art Education	_____
ART 262	1-3	Art and Design Internship	_____
ART 289	3	Art and Design Portfolio	_____
ART 290-299		Special Projects in Art	_____

62/64 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. A "C" minimum grade is required in all ART courses.
2. Taking 2 general education courses per semester is suggested.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Associate in Arts Degree

Program Code: AA.40000

This degree is designed to allow you to complete required general education courses, introductory courses for your intended program of study at a college or university. This degree is primarily intended for student seeking to complete a bachelors, or higher, program of study. It is crucial to consult with a Counselor or Academic Advisor on proper course selections to align with your ultimate transfer and career goals. Fulfilling the required thirty credit (30) core courses may meet the requirements for either the MTA (Michigan Transfer Agreement) articulation agreements. Please consult pages 26 and 331, a Counselor or Advisor, or visit our webpage at: www.delta.edu for more information.

CORE

GROUP I: HUMANITIES

Course	Credits	Course Title	Completed
COM--	3	Any COM course from approved list	_____
--- ---	5	Additional Group I Electives from approved list	_____
8	MINIMUM CREDITS		

GROUP II: SOCIAL SCIENCE

Course	Credits	Course Title	Completed
POL or HIS	3/4	Foundational Civics course from approved list	_____
---	4/5	Additional Group II Electives from approved list	_____
8	MINIMUM CREDITS		

GROUP III: NATURAL SCIENCE

Course	Credits	Course Title	Completed
---	3/5	Natural Science with Lab from approved list	_____
MTH---	3/4	Mathematics from approved list (MTH 116, MTH 118, MTH 120, or higher course)	_____
---	1/2	Additional Group III Electives from approved list	_____
8	MINIMUM CREDITS		

ENGLISH COMPOSITION

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
6	MINIMUM CREDITS		

The above completes 30 CORE CREDITS

Course	Credits	Course Title	Completed
LW ---	2	Lifelong Wellness Course(s) from approved list	_____
--- ---	30	Additional Credits	_____

62 TOTAL CREDITS FOR DEGREE

- OTHER REQUIREMENTS: Civic Engagement
Complete one of the following Civic Engagement options in addition to the Foundational Civics courses listed above.
 - Designated Service Learning course across the curriculum (SL) will appear after the course designation.
 - A Social Science Civic Engagement project (1 credit). A faculty member must supervise this project, either as a project tied to a course or as individualized instruction.
 - A course that includes the civic engagement project in its outcome and objectives. These courses include: POL104W, HIS 237W, IHU/SSI 120W, and IHU/SSI 240W.

Note: POL 104W and HIS 237W will satisfy both the Foundational Civics and Civic Engagement graduation requirements.
- Approved Courses Lists: Complete 8 credits in courses from two different disciplines in Group I-Humanities from the list on page XXX of the College catalog.
- Approved Courses Lists: Complete 8 credits in courses from two different disciplines in Group II-Social Science from the list on page XXX of the College catalog.
- Approved Courses Lists: Complete 8 credits in courses from two different disciplines in Group I-Natural Science from the list on page XXX of the College catalog.
- Approved COM Courses List: COM 112W, COM 114W, COM 202W, COM 212W, COM 214W, COM 215W, COM 222, COM 224W, COM 235W, COM 236, COM 244W, or COM 245W
- Approved Foundational Civics Courses List: POL 103W, POL 104W, POL 212W, POL 215W, POL 220W, POL 221W, POL 223W, POL 224W, POL 228W, POL 229W, POL 232, HIS 221W, HIS 222W, or HIS 237.
- Approved Lifelong Wellness Courses List: LW 221W, or LW 222, or LW 223 (2-3 credits) or: LW 206, or LW 220W (1 credit) and LWA course (1 credit)

-
- or: LWT 230, or LWT 242 or LWT 251 (3-4 credits).
8. Approved Mathematics Courses List: MTH 116W, MTH 118W, MTH 120, or higher course).
 9. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
 10. Delta College reserves the right to modify graduation requirements.

Associate in Science Degree

Program Code: AS.40000

This degree is designed to allow you to complete required general education courses, introductory courses for your intended program of study at a college or university. This degree is primarily intended for student seeking to complete a bachelors, or higher, program of study. It is crucial to consult with a Counselor or Academic Advisor on proper course selections to align with your ultimate transfer and career goals. Fulfilling the required thirty credit (30) core courses may meet the requirements for either the MTA (Michigan Transfer Agreement) articulation agreements. Please consult pages 26 and 331, a Counselor or Advisor or visit our webpage at: www.delta.edu for more information.

CORE

GROUP I: HUMANITIES

Course	Credits	Course Title	Completed
COM--	3	Any COM course from approved list	_____
---	5	Additional Group I Electives from approved list	_____
8	MINIMUM CREDITS		

GROUP II: SOCIAL SCIENCE

Course	Credits	Course Title	Completed
POL or HIS	3/4	Foundational Civics course from approved list	_____
---	4/5	Additional Group II Electives from approved list	_____
8	MINIMUM CREDITS		

GROUP III: NATURAL SCIENCE

Course	Credits	Course Title	Completed
---	3/5	Natural Science with Lab from approved list	_____
MTH---	3/4	Mathematics from approved list	_____
---	11/14	Additional Group III Electives from approved list	_____
20	MINIMUM CREDITS		

ENGLISH COMPOSITION

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
6	MINIMUM CREDITS		

The above completes 42 CORE CREDITS

Course	Credits	Course Title	Completed
LW ---	2	Any Lifelong Wellness Course(s) from approved list	_____
---	18	Additional Credits	_____
62	TOTAL CREDITS FOR DEGREE		

1. OTHER REQUIREMENTS: Civic Engagement

Complete one of the following Civic Engagement options in addition to the Foundational Civics courses listed above.

- Designated Service Learning course across the curriculum (SL) will appear after the course designation.
- A Social Science Civic Engagement project (1 credit). A faculty member must supervise this project, either as a project tied to a course, or as individualized instruction.
- A course that includes the civic engagement project in its outcome and objectives. These courses include: POL104W, HIS 237W, IHU/SSI 120 and ISU/SSI 240W.

Note: POL-104W and HIS-237W will satisfy the Foundational Civics and Civic Engagement graduation requirement.

- Approved Courses Lists: Complete 8 credits in courses from two different disciplines in Group I-Humanities from the list on page XXX of the College catalog.
- Approved Courses Lists: Complete 8 credits in courses from two different disciplines in Group II-Natural Science from the list on page XXX of the College catalog.
- Approved Courses Lists: Complete 8 credits in courses from two different disciplines in Group III-Humanities from the list on page XXX of the College catalog.
- Approved COM Courses List: COM 112W, COM 114W, COM 202W, COM 212W, COM 214W, COM 215W, COM 222, COM 224W, COM 235W, COM 236W, COM 244W, or COM 245W.
- Approved Foundational Civics Courses List: POL 103W, POL 104W, POL 212W, POL 215W, POL 220W, POL 221W, POL 223W, POL 224W, POL 228W, POL 229W, POL 232, HIS 221W, HIS 222W or HIS 237.
- Approved Lifelong Wellness Courses List: LW 221W, or LW 222, or LW 223 (2-3 credits) or; LW 206, or LW 220W (1 credit) and LWA course (1 credit) or; LWT 230, or LWT 242 or LWT 251 (3-4 credits).
- Approved Mathematics Courses List: MTH 120, MTH 121, MTH 122W, MTH 151, MTH 153, MTH 160, MTH 161, MTH 162, MTH 208W, MTH 260, MTH 261, MTH 263, MTH 264, or MTH 290-299.

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9. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 10. Delta College reserves the right to modify graduation requirements.

Automotive Service Educational Program (GM ASEP) - Associate in Applied Science

Program Code: AAS.60842

The GM Automotive Service Educational Program (ASEP) is an associate degree automotive program designed to upgrade your technical competence and professional level to an incoming dealership technician. At Delta College, the program requires 111 weeks of training to complete. Approximately 60 of those weeks are spent on the Delta College campus. The remainder of the time spent in this two-year period is in a General Motors dealership or an ACDelco Professional Service Center (PSC) repair facility. Each specialized subject is dealt with in the classroom and laboratory on campus and is immediately followed by related work experience in the dealership/PSC. This rotation system continues until the program is completed. This is a suggested enrollment sequence for full time students. It is suggested that part time students see an advisor for scheduling assistance. NOTE: There is a special application for this program and each student is required to be sponsored by a General Motors dealership or an ACDelco repair facility. For more information, please contact ASEP Coordinator: (989) 686-9351

Level 1 - MLR (Maintenance and Light Repair)

Course	Credits	Course Title	Completed
ASEP 101	3	Engine Repair Level 1	_____
ASEP 102	3	Automatic Transmission Level 1	_____
ASEP 103	2	Manual Drive Trains and Axles Level 1	_____
ASEP 104	3	Suspension and Steering Level 1	_____
ASEP 105	2	Brakes Level 1	_____
ASEP 106	4	Electrical/Electronic Systems Level 1	_____
ASEP 107	2	Heating and Air Conditioning Level 1	_____
ASEP 108	3	Engine Performance Level 1	_____
ASEP 149	1	MLR Capstone	_____
ASEP 150	1	Dealership Work Experience 1	_____
24	SUBTOTAL		

Level 2 - AST (Automotive Service Technology)

Course	Credits	Course Title	Completed
ASEP 160	1	Dealership Work Experience 2	_____
ASEP 151	1	Engine Repair Level 2	_____
ASEP 152	1	Automatic Transmission Level 2	_____
ASEP 153	1	Manual Drive Trains and Axles Level 2	_____
ASEP 154	2	Suspension and Steering Level 2	_____
ASEP 155	1	Brakes Level 2	_____
ASEP 156	2	Electrical/Electronic Systems Level 2	_____
ASEP 157	1	Heating and Air Conditioning Level 2	_____
ASEP 158	2	Engine Performance Level 2	_____
12	SUBTOTAL		

Level 3 - MAST (Master Automotive Service Technology)

Course	Credits	Course Title	Completed
ASEP 170	1	Dealership Work Experience 3	_____
ASEP 180	1	Dealership Work Experience 4	_____
ASEP 201W	1	Engine Repair Level 3	_____
ASEP 202W	3	Automatic Transmission Level 3	_____
ASEP 203	1	Manual Drive Trains and Axles Level 3	_____
ASEP 204	1	Suspension and Steering Level 3	_____
ASEP 205	1	Brakes Level 3	_____
ASEP 206	1	Electrical-Electronic Systems Level 3	_____
ASEP 207	1	Heating and Air Conditioning Level 3	_____
ASEP 208W	2	Engine Performance Level 3	_____
ASEP 219	2	Basic Service Advising	_____
ASEP 229	2	Advanced Service Advising	_____
ASEP 249	1	ASEP Capstone	_____
18	SUBTOTAL		

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
MIT 118	2	Safety Practices and Procedures	_____
MGT 110	3	Business Mathematics	_____
LW 223W	2	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
16/17	SUBTOTAL		

70/71 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. Since half of the program is spent at the dealership/PSC, you are required to have a sponsoring General Motors dealer or an ACDelco PSC Center. The main responsibility of the dealership/PSC is to provide employment during all of the work experience periods.
2. All tuition, fees, housing (if needed), textbook costs, and tools are your responsibility.
3. For more information call ASEP Coordinator (989) 686-9351, Fax (989) 667-2207.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Automotive Service Technology - Advanced Certificate

Program Code: CTA.35845

Successfully completing the Automotive Service Technology Advanced Certificate provides the skills and training for an entry level career as a service technician or service writer. Students who continue and complete the Associate Degree in Automotive Service Technology will have a broader based education.

Level 1 (MLR) Maintenance and Light Repair

Course	Credits	Course Title	Completed
AUTO 101	3	Engine Repair Level 1	_____
AUTO 102	3	Automatic Transmission Level 1	_____
AUTO 103	2	Manual Drive Trains and Axles Level 1	_____
AUTO 104	3	Suspension and Steering Level 1	_____
AUTO 105	2	Brakes Level 1	_____
AUTO 106	4	Electrical/Electronic Systems Level 1	_____
AUTO 107	2	Heating and Air Conditioning Level 1	_____
AUTO 108	3	Engine Performance Level 1	_____
AUTO 110	1	MLR Internship	_____
AUTO 149	1	MLR Capstone	_____
24	SUBTOTAL		

Level 2 (AST) Automotive Service Technology

Course	Credits	Course Title	Completed
AUTO 151	1	Engine Repair Level 2	_____
AUTO 152	1	Automatic Transmission Level 2	_____
AUTO 153	1	Manual Drive Trains and Axles Level 2	_____
AUTO 154	2	Suspension and Steering Level 2	_____
AUTO 155	1	Brakes Level 2	_____
AUTO 156	2	Electrical/Electronic Systems Level 2	_____
AUTO 157	1	Heating and Air Conditioning Level 2	_____
AUTO 158	2	Engine Performance Level 2	_____
AUTO 160	1	MAST Internship	_____
12	SUBTOTAL		

Level 3 (MAST) Master Automotive Service Technology

Course	Credits	Course Title	Completed
AUTO 201W	1	Engine Repair Level 3	_____
AUTO 202W	3	Automatic Transmission Level 3	_____
AUTO 203	1	Manual Drive Trains and Axles Level 3	_____
AUTO 204	1	Suspension and Steering Level 3	_____
AUTO 205	1	Brakes Level 3	_____
AUTO 206	1	Electrical-Electronic Systems Level 3	_____
AUTO 207	1	Heating and Air Conditioning Level 3	_____
AUTO 208W	2	Engine Performance Level 3	_____
AUTO 249	1	AUTO Capstone	_____
12	SUBTOTAL		

Electives (Not Required)

Course	Credits	Course Title	Completed
AUTO 226	5	Hybrid Electric Vehicle Service I	_____
AUTO 216	1	Hybrid Electrical Vehicle Safety	_____

48 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all classes in Level 2 and Level 3.

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2. All classes in Level 2 and Level 3 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
 3. The Automotive Service Skills Internships require a current State of Michigan Motor Vehicle Training Permit; Motor Vehicle Mechanic Certifications in all areas; or a combination of both that would cover all areas. The student must consult with the automotive faculty before starting their internships. The student will be responsible for obtaining the place of employment for the the internship which must be acceptable by Delta College. Two internships are required for the certificate.
 4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Automotive Service Technology - Advanced Certificate**

Automotive Service Technology - Advanced Certificate

Total Program Cost (In District):	\$10,557.60
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Automotive Service Technology - Associate in Applied Science

Program Code: AAS.15844

In addition to being trained to enter the automotive field as a technician or service writer, you will have a broader based education by completing the associate degree. You may also choose to continue your education by seeking a baccalaureate degree. Both certificate and associate degree are available. Both the certificate and associate degree options provide hybrid technology.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
MIT 118	2	Safety Practices and Procedures	_____
MGT 110	3	Business Mathematics	_____
LW 223W	2	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
16/17	SUBTOTAL		

Level 1 (MLR) Maintenance and Light Repair

Course	Credits	Course Title	Completed
AUTO 101	3	Engine Repair Level 1	_____
AUTO 102	3	Automatic Transmission Level 1	_____
AUTO 103	2	Manual Drive Trains and Axles Level 1	_____
AUTO 104	3	Suspension and Steering Level 1	_____
AUTO 105	2	Brakes Level 1	_____
AUTO 106	4	Electrical/Electronic Systems Level 1	_____
AUTO 107	2	Heating and Air Conditioning Level 1	_____
AUTO 108	3	Engine Performance Level 1	_____
AUTO 110	1	MLR Internship	_____
AUTO 149	1	MLR Capstone	_____
24	SUBTOTAL		

Level 2 (AST) Automotive Service Technology

Course	Credits	Course Title	Completed
AUTO 151	1	Engine Repair Level 2	_____
AUTO 152	1	Automatic Transmission Level 2	_____
AUTO 153	1	Manual Drive Trains and Axles Level 2	_____
AUTO 154	2	Suspension and Steering Level 2	_____
AUTO 155	1	Brakes Level 2	_____
AUTO 156	2	Electrical/Electronic Systems Level 2	_____
AUTO 157	1	Heating and Air Conditioning Level 2	_____
AUTO 158	2	Engine Performance Level 2	_____
AUTO 160	1	AST Internship	_____
12	SUBTOTAL		

Level 3 (MAST) Master Automotive Service Technology

Course	Credits	Course Title	Completed
AUTO 201W	1	Engine Repair Level 3	_____
AUTO 202W	3	Automatic Transmission Level 3	_____
AUTO 203	1	Manual Drive Trains and Axles Level 3	_____
AUTO 204	1	Suspension and Steering Level 3	_____
AUTO 205	1	Brakes Level 3	_____
AUTO 206	1	Electrical-Electronic Systems Level 3	_____
AUTO 207	1	Heating and Air Conditioning Level 3	_____
AUTO 208W	2	Engine Performance Level 3	_____
AUTO 249	1	AUTO Capstone	_____
12	SUBTOTAL		

Electives (Not required)

Course	Credits	Course Title	Completed
AUTO 216	1	Hybrid Electrical Vehicle Safety	_____
AUTO 226	5	Hybrid Electric Vehicle Service I	_____

64/65 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all classes in Level 2 and Level 3.
2. All classes in Level 2 and Level 3 are Key courses and must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Before enrolling in an Automotive Service Skills Internship, the student must have a current State of Michigan Motor Vehicle Training Permit; Motor Vehicle Mechanic Certifications in all areas; or a combination of both that would cover all areas. The student must consult with the automotive faculty before starting their internships. The student will be responsible for obtaining the place of employment for the internships which must be acceptable by Delta College. Two internships are required for an associate degree and the certificate.
4. Any college level Composition II course with a minimum grade of "C" may be substituted for ENG 113. MTH 118 with a minimum grade of "C" may be substituted for MGT 110. See a counselor or advisor in D-102.
5. For those students who are planning to transfer to a four-year college and/or university, we recommend that you visit the website of the school to which you may transfer for appropriate information about their requirements and the Delta College courses that will transfer to that institution. Visit the Delta College Articulation website for information on agreements with other 4-year colleges and universities to transition from Delta College associate degree programs to a baccalaureate program. Other options include 3 + 1 programs, online programs, and international programs.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Automotive Service Technology - General Management - Dual Associate Degree

Program Code: DE.30844

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree. If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
15/17	SUBTOTAL		

Select the remaining 7/8 credits for the degree from the following courses:

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/9	SUBTOTAL		
24	TOTAL CREDITS REQUIRED		

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.

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3. Credits required for a dual degree vary according to the chosen curricula.
 4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
 5. Delta College reserves the right to modify graduation requirements.

Chemical Process Technology - Advanced Certificate

Program Code: CSA.35835

To earn an advanced certificate, students must meet one of the following criteria: the student has already earned a technical associate, bachelor, or greater degree; military experience; over 8000 hours industrial experience; or a journeyman's card.

The operator role includes but is not limited to the following functions: knowledge and upholding of the standards regarding health, safety and the environment; working with the handling, transporting, storage and disposal of chemicals and other materials in compliance with all state and federal regulations; the operation, monitoring, and controlling of process both continuous and batch; interfacing with chemical engineers and technician co-workers involved with these processes; and managing normal maintenance of equipment, calibration of instrumentation, and troubleshooting as needed.

Certificate Requirements

Course	Credits	Course Title	Completed
CPI 115	2	Chemical Plant Science Fundamentals	_____
CPI 120	2	Introduction To Process Operations	_____
CPI 210	4	Basic Chemical and Unit Operations	_____
CPI 220	3	Process Measurement	_____
CPI 230	3	Process Control	_____
CPI 240W	3	Process Troubleshooting	_____
CPI 245	3	Environmental Health, & Safety in Chemical Process Industry	_____
CPI 250W	4	Advanced Chemical Operations	_____
CPI 260W	4	Process Operations Management	_____
CPI 270	2	Advanced Process Operations Lab	_____

30 TOTAL CREDITS REQUIRED FOR CERTIFICATE

1. To earn an advanced certificate, you must meet one of the following criteria: have already earned a technical associate, bachelor or greater degree; military experience; over 8000 hours industrial experience; or a journeyman's card.
2. CPI 115 and CPI 245 require instructor permission to register.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Chemical Process Technology - Advanced Certificate**

Chemical Process Technology - Advanced Certificate

Total Program Cost (In District):	\$4,656.00
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Chemical Process Technology - Associate in Applied Science

Program Code: AAS.15829

The Associate Degree Program in Chemical Process Technology prepares the student for employment as a process operator in the chemical/material processing industry. The operator role includes but is not limited to the following functions: knowledge and upholding of the standards regarding health, safety and the environment; working with the handling, transporting, storage and disposal of chemicals and other materials in compliance with all state and federal regulations; the operation, monitoring, and controlling of process both continuous and batch; interfacing with chemical engineers and technician co-workers involved with these processes; and managing normal maintenance of equipment, calibration of instrumentation, and troubleshooting as needed.

Core Courses

Course	Credits	Course Title	Completed
CPI 120	2	Introduction To Process Operations	_____
CPI 210	4	Basic Chemical And Unit Operations	_____
CPI 220	3	Process Measurement	_____
CPI 230	3	Process Control	_____
CPI 240W	3	Process Troubleshooting	_____
CPI 250W	4	Advanced Chemical Operations	_____
CPI 260W	4	Process Operations Management	_____
CPI 270	2	Advanced Process Operations Lab	_____
25	SUBTOTAL		

General Education Courses

Course	Credits	Course Title	Completed
CHM 105W	5	Technical Chemistry I	_____
CHM 106W	5	Technical Chemistry II	_____
COM 112W	3	Fundamentals of Oral Communication	_____
		OR	
COM 114W	(3)	Interpersonal Communication	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
		OR	
ENG 113	(3)	Technical Communication	_____
ENV 100W	3	Environmental Regulations	_____
ENV 152	1.6	Emergency Response To Industrial Spills	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW 223W	(2)	Wellness in Technical Trades	_____
MTH ---	4	Any Approved Intermediate Algebra Course (or higher Math course)	_____
MTH 208W	3	Elementary Statistics	_____
PHY 101	4	Applied Physics	_____
		OR	
PHY 111	(4)	General Physics I	_____
		OR	
PHY 211	(5)	Physics I	_____
POL ---	3/4	Any Approved American Government Requirement	_____
39.6/41.6	SUBTOTAL		

Recommended Electives

Course	Credits	Course Title	Completed
CST 133W	4	Computer Concepts & Competencies	<hr/>

64.6/66.6 TOTAL CREDITS

1. A "C" (2.0) or higher is required in all core courses as well as CHM, MTH, and PHY general education courses.
2. If your computer experience is limited, CST 133 is also suggested.
3. Intermediate Algebra and Applied Physics may also be met with an acceptable score on current college assessment instruments. Contact Assessment/Testing office at 989-686-9338 for more details. Credits to meet graduation requirements may then be met by completing additional electives.
4. Transfer students may be advised to complete CHM 111, CHM 112, CHM 210, and CHM 210L instead of CHM 105 and CHM 106.
5. Transfer students may be advised to complete either PHY 111 or PHY 211 instead of PHY 101.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Chemical Technology - Associate in Applied Science

Program Code: AAS.15464

A degree in Chemical Technology may transfer or could lead to a position with area employers as a Technologist. As a Chemical Technologist, you will operate many kinds of laboratory instruments, be involved with data collection and analysis, technical report writing, and research projects. This Associate in Applied Science program includes core courses that allow flexibility in choosing a technical focus. Degrees in Water/Wastewater Treatment Technology, Chemistry, Biology, Physics, Clinical Laboratory Science, or Engineering may also be pursued using most of the credits from this program.

General Education Courses-General

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication OR	_____
COM 114W	(3)	Interpersonal Communication	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course OR	_____
ENG 113	(3)	Technical Communication	_____
MTH 208W	3	Elementary Statistics OR	_____
MTH 209W	(4)	Statistics	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
--- ---	3	Humanities Elective	_____
--- ---	3	Social Science Elective	_____
26/29		SUBTOTAL	

General Education Courses-Science I

Course	Credits	Course Title	Completed
PHY 101	4	Applied Physics OR	_____
PHY 111	(4)	General Physics I OR	_____
PHY 211	(5)	Physics I	_____
4/5		SUBTOTAL	

General Education Courses-Science 2

Course	Credits	Course Title	Completed
PHY 112	4	General Physics II OR	_____
PHY 212	(5)	Physics II OR	_____
BIO 110W	(4)	Environmental Science OR	_____
BIO 111W	(4)	Principles of Biology OR	_____
BIO 171	(4)	Integrated General Biology I OR	_____
BIO 199	(4)	Human Heredity And Sexuality OR	_____
BIO 203W	(4)	General Microbiology	_____
4/5		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
CHM 111	5	General and Inorganic Chemistry I	_____
CHM 112	5	General and Inorganic Chemistry II	_____
CHM 210	4	Organic Chemistry I	_____
CHM 210LW	1	Organic Chemistry I Laboratory	_____
CHM 220	4	Organic Chemistry II	_____
CHM 220LW	1	Organic Chemistry II Laboratory	_____
CHM 230	4	Chemical Analysis/Instrumentation	_____
CHM 231	1	Troubleshooting for Analytical Instrumentation	_____
SCI 107	1	Introduction to Technical Programs in Science	_____
SCI 249	1	Scientific Research Development	_____
SCI 250	2/6	Research Project In Science	_____
29/33		SUBTOTAL	

Recommended Electives

Course	Credits	Course Title	Completed
CHM 221	3	Organic Biochemistry	_____
MTH 121	3	Plane Trigonometry	_____
MTH 151	4	Pre-Calculus Mathematics	_____
MTH 161	4	Analytic Geometry and Calculus I (and higher)	_____
WET 110	3	Water Treatment Technologies	_____
WET 112	3	Wastewater Treatment Technology	_____
BIO 274	2	Introduction to Biotechnology	_____

63/72 TOTAL CREDITS

1. It is highly recommended that students take SCI 107 early in their coursework.
2. A minimum of two credits is required for SCI 250. However, in consultation with faculty, a research project for up to 6 credits may be chosen.
3. PHY 101, 111, and 211 may transfer as Physics or Science credit only, depending on the institution.
4. PHY 101 is not recommended for students who wish to take PHY 112 or PHY 212. Students wishing to take PHY 112 should enroll in PHY 111. Students wishing to take PHY 212 should enroll in PHY 211.
5. Humanities courses must be completed in at least two different subject areas. Consult this catalog for a list of approved Humanities courses.
6. SCI 250: Research Projects in Science is offered on a continual basis through individual instruction with Chemistry faculty mentors. Go to www.delta.edu/science/chemistry/contactus.aspx for a list of Chemistry faculty.
7. You may be eligible for the MACRAO or MTA certificate. Consult the current catalog for requirements.
8. To have the MACRAO stamp placed on your transcript, fill out a MACRAO Request Form at the Records Office with the Graduation Request.
9. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
10. Delta College reserves the right to modify graduation requirements.

Child Development - Educational Paraprofessional - Certificate of Achievement

Program Code: CSZ.35763

Child development teachers work in a variety of settings providing care and guidance of young children. This includes concern for the mental, social, physical, and emotional growth and development of the child. As a child development teacher, you should be able to work under supervision and work cooperatively with other personnel. Each employee should gain the respect, confidence, and cooperation of children, maintain discipline, and enforce as well as deal with emergency situations calmly. Physically, you must maintain good health and be able to stoop, kneel, crouch, and crawl. Good vision and hearing are necessary as well as being able to lift up to 40 pounds. Applicants for child development positions are to be free of communicable diseases including a negative TB test. A DHS clearance for child abuse/neglect is required, as is a criminal background check.

The Educational Paraprofessional Certificate of Achievement is designed to assist students in obtaining the skills necessary to work as paraprofessionals in pre-K and early elementary classrooms. This certificate stresses the importance of understanding child and family diversity, special needs populations, and developmentally appropriate discipline. By completing the certificate, a student can supplement the Advanced Certificate or Associate in Applied Arts degree or use it to directly gain employment.

Certificate Requirements

Course	Credits	Course Title	Completed
CD 109W	2	Introduction to the Educational Paraprofessional	_____
CD 113W	4	Child Guidance Strategies	_____
CD 116W	3	Diversity and Families in Early Childhood Education	_____
ED 201W	3	Education of the Exceptional Child	_____

12 TOTAL CREDITS REQUIRED

1. CD 113W is a Key course and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
2. A grade of "C" (2.0) or higher is required in all courses for the certificate.
3. All CD 113W students must complete the following and submit the appropriate documentation to the program coordinator: 1) TB Skin Test. You must submit evidence of freedom from communicable tuberculosis; 2) Criminal background check; 3) DHS Child Abuse/Neglect clearance check; 4) Employment and volunteer contract (practicum agreement).
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Child Development - Advanced Certificate

Program Code: CSA.35763

Child development teachers work in a variety of settings providing care and guidance of young children. This includes concern for the mental, social, physical, and emotional growth and development of the child. As a child development teacher, you should be able to work under supervision and work cooperatively with other personnel. Each employee should gain the respect, confidence, and cooperation of children, maintain discipline, and enforce as well as deal with emergency situations calmly. Physically, you must maintain good health and be able to stoop, kneel, crouch, and crawl. Good vision and hearing are necessary as well as being able to lift up to 40 pounds. Applicants for child development positions are to be free of communicable diseases including a negative TB test. A DHS clearance for child abuse/neglect is required, as is a criminal background check.

The Child Development Certificate prepares students for positions as assistant teachers or teachers in early childhood education and care programs. Students learn to plan and implement high quality, developmentally appropriate programs for all ages of children, infants through school-age, in both centers and family child care homes.

The curriculum for the certificate is aligned with the standards issued by the National Association for the Education of Young Children.

Certificate Requirements

Course	Credits	Course Title	Completed
CD 110W	4	Infant/Toddler Development	_____
CD 111W	3	Introduction to Early Childhood Education	_____
CD 112W	3	Learning Center Activities	_____
CD 113W	4	Child Guidance Strategies	_____
CD 115PW	3	Introductory Preschool Practicum	_____
CD 116W	3	Diversity and Families in Early Childhood Education	_____
CD 117W	6	Student Teaching Practicum	_____
ED 201W	3	Education of the Exceptional Child	_____
LWT 165	1	HeartSaver First Aid with CPR	_____
PSY 211W	4	General Psychology	_____
PSY 223W	3	Child Psychology	_____

37 TOTAL CREDITS REQUIRED

1. CD 110W, CD 111W, CD 113W, CD 115PW, are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
2. A grade of "C" (2.0) or higher is required in all courses for the certificate.
3. CD 111W and CD 115PW may be articulated if the student has earned a CDA credential (Center-based Preschool and Family Child Care CDAs), an elementary education degree or a high school career-technical certificate. CD 110W and CD 111W may be articulated if the student has earned a Center-based Infant Toddler CDA credential. Articulated credits will not count towards DHS requirements for a director using a CDA certificate. The 18 required credits for a child care director must be regular classes with a grade for credit.
4. A Child Development information session is held in November, April and August. CD 110W, CD 113W, CD 115PW, and CD 117W students must attend one of these sessions. Be sure you notify the Counseling Office to state your major as Child Development.
5. All CD 110W, 113W, 115PW, and 117W students must complete the following and submit the appropriate documentation to the program coordinator: 1) TB Skin Test. You must submit evidence of freedom from communicable tuberculosis; 2) Criminal background check; 3) DHS Child Abuse/Neglect clearance check; 4) Employment and volunteer contract (practicum agreement).
6. CD 110W and CD 113W each require 30 hours of volunteer work at a licensed childcare program. CD 115PW requires 90 hours and CD 117W requires 150 hours of teaching in a licensed program other than your current employment site. CD 115PW and CD 117W must be unpaid and outside of your work schedule. More information will be given at the information sessions.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Child Development - Advanced Certificate**

Child Development - Advanced Certificate

Total Program Cost (In District):	\$5,726.90
On-Time Completion Rate:	80.95%
Program Job Placement Rate:	Not Required
Median Loan Dept:	\$0.00

Child Development - Associate in Applied Arts

Program Code: AAA.25762

Child development teachers work in a variety of settings providing care and guidance of young children. This includes concern for the mental, social, physical, and emotional growth and development of the child. As a child development teacher, you should be able to work under supervision and work cooperatively with other personnel. Each employee should gain the respect, confidence, and cooperation of children, maintain discipline, and enforce as well as deal with emergency situations calmly. Physically, you must maintain good health and be able to stoop, kneel, crouch, and crawl. Good vision and hearing are necessary as well as being able to lift up to 40 pounds. Applicants for child development positions are to be free of communicable diseases including a negative TB test. A DHS clearance for child abuse/neglect is required, as is a criminal background check.

Students learn supportive skills needed for positions as assistant teachers or teachers in early childhood education and care programs. The Associate in Applied Arts degree program will also stress leadership skills that are needed in a director position. Graduates of this degree program will also be qualified to apply for positions as lead teachers and center directors as well as apply for a license for their own child care business.

The curriculum for this program is aligned with the standards issued by the National Association for the Education of Young Children.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
--- ---	8	Humanities Electives	_____
--- ---	8	Natural Science Electives including one lab course	_____
27/28		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
CD 110W	4	Infant/Toddler Development	_____
CD 111W	3	Introduction to Early Childhood Education	_____
CD 112W	3	Learning Center Activities	_____
CD 113W	4	Child Guidance Strategies	_____
CD 115PW	3	Introductory Community Practicum	_____
CD 116W	3	Diversity and Families in Early Childhood Education	_____
CD 117W	6	Student Teaching Practicum	_____
CD 210W	3	Child Care Program Management	_____
ED 201W	3	Education of the Exceptional Child	_____
LWT 165	1	HeartSaver First Aid with CPR	_____
PSY 211W	4	General Psychology	_____
PSY 223W	3	Child Psychology	_____
40		SUBTOTAL	

67/68 TOTAL CREDITS REQUIRED

1. CD 110W, CD 111W, CD 113W, CD 115 PW are Key courses and must be completed within 5 year of completing degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
2. A grade of "C" (2.0) or higher is required in all core courses.
3. CD 111W and CD 115PW may be articulated if the student has earned a CDA credential (Center-based Preschool and Family Child Care CDAs), an elementary education degree or a high school career-technical certificate. CD 110W and CD 111W may be articulated if the student has earned a Center-based Infant Toddler CDA credential. Articulated credits will not count towards DHS requirements for a director using a CDA certificate. The 18 required credits for a child care director must be regular classes with a grade for credit.
4. A Child Development information session is held in December, April and August. CD 110W, CD 113W, CD 115PW, and CD 117W students must attend one of these sessions. Be sure you notify the Counseling Office to state your major as CD.
5. All CD 110W, 113W, 115PW, and 117W students must complete the following and submit the appropriate documentation to the program coordinator: 1) TB Skin Test. You must submit evidence of freedom from communicable tuberculosis; 2) Criminal background check; 3) DHS Child Abuse/Neglect clearance check; 4) Employment and volunteer contract (practicum agreement).
6. CD 110W and CD 113W each require 30 hours of volunteer work at a licensed childcare program. CD 115PW requires 90 hours and CD 117W re-

quires 150 hours of teaching in a licensed program other than your current employment site. CD 115PW and CD 117W must be unpaid and outside of your work schedule. More information will be given at the information sessions.

7. Current First Aid and CPR certification (LWT 165) is required to enroll in CD 210W.
8. CD 210W, Child Development Program Management must be taken after all other Child Development courses have been completed.
9. Humanities Electives are required in two different subject areas. Suggested Humanities Electives: COM 114, Interpersonal Communications and one chosen from ENG 250, or ENG 253.
10. Natural Science electives credit in two different areas would be particularly useful for transferring to a 4-year school and is required in the fulfillment of the MACRAO agreement and starting in 2015 the MTA. If you are planning on transferring you may also wish to take a Math course (MTH 118 or higher, excluding MTH 119 and MTH 153). For questions or more information, please see the Counseling and Advising office. Check with your transfer institution for optimum choices.
11. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
12. Delta College reserves the right to modify graduation requirements.

Communication - Interpersonal - Certificate of Achievement

Program Code: CSZ.35325

The Communication Certificate will offer students the opportunity to develop their communication skills. The certificate offers two tracks; one that focuses on more interpersonal communication skills and one that emphasizes presentational and organizational skills. This certificate is an opportunity for professional development in key workplace communication skills for students of any age and level of experience.

Required Courses

Course	Credits	Course Title	Completed
COM 114W	3	Interpersonal Communication	_____
COM 214W	3	Small Group Communication	_____
COM 224W	3	Nonverbal Communication	_____
COM--	3	Any Approved COM Elective	_____

12 TOTAL CREDITS

1. A grade of "C" or higher is required in all courses for the certificate.
2. Elective course can be any three credit COM course, with the exception of COM-216, Theater History.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Communication - Presentational - Certificate of Achievement

Program Code: CSZ.35326

The Communication Certificate will offer students the opportunity to develop their communication skills. The certificate offers two tracks; one that focuses on more interpersonal communication skills and one that emphasizes presentational and organizational skills. This certificate is an opportunity for professional development in key workplace communication skills for students of any age and level of experience.

Required Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
COM 202W	3	Oral Communication for Managers	_____
COM 236W	3	Advanced Oral Communication	_____
COM--	3	Any Approved COM Elective	_____

12 TOTAL CREDITS

1. A grade of "C" or higher is required in all courses for the certificate.
2. Elective course can be any three credit COM course, with the exception of COM-216, Theater History.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Computer Aided Drafting - Advanced Certificate

Program Code: CTA.35865

As a computer drafter, you will make detailed manual or computer drawings of products and machinery from sketches and specifications conceived by engineers and designers. The finished drawings are used as working plans for engineering and manufacturing purposes. Depending on experience and level of responsibility, duties may vary from preparing basic drawings to modifying the finished design using computer aided design equipment.

In order to enter this area of work, you should be able to: work within precise limits or standards of accuracy, concentrate for long periods of time, visualize 3-dimensional objects from drawings or pictures, see detail in objects or drawings, and recognize slight differences in shapes and shadings. Computer skills are a requirement.

Required Courses

Course	Credits	Course Title	Completed
CAD 114	3	Introduction to CAD	_____
CAD 120	3	Introduction to CAM	_____
CAD 214	2	CAD Techniques	_____
CAD 226	3	3D Parametric Solid Modeling	_____
CAD 232	2	Introduction to Rapid Prototyping	_____
CNC 162	4	Computer Numerical Control Theory	_____
DRF 121	3	Blueprint Reading	_____
DRF 128	2	Geometric Tolerancing	_____
MIT 111W	3	Manufacturing Processes	_____
MS 113	2	Machining Processes	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____

31 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CAD 114, CAD 120, CAD 214 and CAD 226 are Key courses must be completed within 5 years of completing certificate or degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Computer Aided Drafting - Advanced Certificate**

Computer Aided Drafting - Advanced Certificate

Total Program Cost (In District):	\$4,963.40
On-Time Completion Rate:	83.33%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Computer Numerical Control - Certificate of Achievement

Program Code: CTZ.35866

Delta College offers a Certificate of Achievement in Computer Numerical Control (CNC) that includes four core courses with additional supporting classes. Computer Numerical Control programmers/operators can work with a wide variety of CNC machine tools although many specialize in one or two types. Specific duties may include: studying blueprints or sketches; building tooling, jigs, or fixtures; programming and editing; machine work pieces; inspecting and certifying product for dimensional accuracy; and light duty repair and maintenance of the CNC machine.

Program Requirements -- Core Courses

Course	Credits	Course Title	Completed
CNC 162	4	Computer Numerical Control Theory OR	_____
SKCN 162	(4)	Computer Numerical Control Theory	_____
DRF 121	3	Blueprint Reading OR	_____
SKDR 101	(3)	Blueprint Reading	_____
MS 113	2	Introduction to Machining Processes OR	_____
SKTR 113	(2)	Introduction to Machining Processes	_____
MS 181W	4	Machine Tools I OR	_____
SKTR 181W	(4)	Machine Tools I	_____
13	SUBTOTAL		

Complete two (2) courses from the CNC Supporting Courses

CNC Supporting Courses

Course	Credits	Course Title	Completed
CAD 120	3	Introduction to CAM OR	_____
SKCA 120	(3)	Introduction to CAM	_____
MIT 118	2	Safety Practices and Procedures	_____
MTH 103	4	Applied Geometry and Trigonometry OR	_____
SKMA 103	(4)	Applied Geometry and Trigonometry OR	_____
MTH ---	(4)	Any Approved Intermediate Algebra Course	_____
5/7	SUBTOTAL		

CREDITS EARNED FOR THIS CERTIFICATE MAY BE APPLIED TOWARDS COMPLETIONS OF: A CNC ADVANCED CERTIFICATE; OR THE MANUFACTURING AND INDUSTRIAL TECHNOLOGY AAS DEGREE; OR THE MECHANICAL ENGINEERING TECHNOLOGY AAS DEGREE.

18/20 TOTAL CREDITS REQUIRED FOR CERTIFICATE OF ACHIEVEMENT

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CNC 162 is a Key course and must be completed with 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. It is highly recommended that students job shadow to get a full understanding of employment in this area. Please see the program coordinator for these opportunities.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Computer Numerical Control - Advanced Certificate

Program Code: CTA.35864

As a CNC Machine Tool Programmer/Operator, you will use computer driven machine tools such as lathes, mills, lasers, water jet, wire and/or sinker electrical discharge machines, tube benders, punches, brakes, and grinders to shape materials to precise dimensions. Although some programmer/operators can work with a wide variety of CNC machine tools, most specialize in one or two types. Specific duties may include: studying blueprints or sketches; building tooling, jigs, or fixtures; programming and editing; machine work pieces; inspecting and certifying product for dimensional accuracy; and light duty repair and maintenance of the CNC machine. Many of the CNC courses listed below require prior basic machine tool work experience and/or high school or skill center classes in basic machine tools.

Program Requirements

Course	Credits	Course Title	Completed
MS 113	2	Introduction to Machining Processes OR	_____
SKTR 113	(2)	Introduction to Machining Processes	_____
DRF 121	3	Blueprint Reading OR	_____
SKDR 101	(3)	Blueprint Reading	_____
MTH ---	4	Any Approved Intermediate Algebra Course OR	_____
SKMA 103	(4)	Applied Geometry and Trigonometry	_____
CAD 120	3	Introduction to CAM OR	_____
SKCA 120	(3)	Introduction to CAM	_____
MS 181W	4	Machine Tools I OR	_____
SKTR 181W	(4)	Machine Tools I	_____
CNC 162	4	Computer Numerical Control Theory OR	_____
SKCN 162	(4)	Computer Numerical Control Theory	_____
MS 120	3	Machinery's Handbook OR	_____
SKTR 183	(3)	Machinery's Handbook	_____
DRF 128	2	Geometric Tolerancing OR	_____
SKDR 128	(2)	Geometric Tolerancing	_____
MS 182	4	Machine Tools II OR	_____
SKTR 182	(4)	Machine Tools II	_____
CNC 216	4	CNC with Machining Applications OR	_____
SKCN 216	(4)	CNC with Machining Applications	_____
CNC 225	4	Mastercam OR	_____
SKCN 225	(4)	Mastercam	_____
CNC 260	4	CNC Multi Axis OR	_____
SKCN 260	(4)	CNC Multi Axis	_____
CNC 285W	4	Computer Numerical Control Capstone OR	_____
SKCN 285W	(4)	Computer Numerical Control Capstone	_____
45		TOTAL CREDITS	

Continuing Education Electives (Optional Courses)

Course	Credits	Course Title	Completed
MS 185	3	Precision Grinding-Flat Surface	_____
MS 190	3	Precision Grinding-Cylindrical Surface	_____
MS 230	4	Machine Tools III	_____

45 TOTAL CREDITS REQUIRED FOR THE ADVANCED CERTIFICATE

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CAD 120 (or SKCA 120) and CNC 225 (or SKCN 225 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Computer Numerical Control - Advanced Certificate**

Computer Numerical Control - Advanced Certificate

Total Program Cost (In District):	\$6,049.30
On-Time Completion Rate:	66.67%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Computer Science and Information Technology - Business Information Technology - Associate in Business Studies

Program Code: ABS.10130

A degree in Business and Information Technology includes both business skills and computer skills to prepare you for work in a high-tech business world.

General Education Courses

Course	Credits	Course Title	Completed
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PHL 203W	3	Business Ethics	_____
14/18	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
CST 104	1	Microsoft Word Foundations	_____
CST 110	1	Web Page Development Using HTML	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 147	2	Electronic Media Communication	_____
CST 155	3	Microsoft EXCEL	_____
CST 171	2	Visual BASIC Programming I	_____
CST 173	2	Introduction to Programming	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
CST 284W	2	Business Information Technology Capstone	_____
MGT 110	3	Business Mathematics	_____
MGT 153W	3	Introduction to Business	_____
28	SUBTOTAL		

Business Information Technology Track - Required Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Financial Accounting	_____
CST 160	3	Networking Essentials	_____
CST 173	2	Introduction to Programming	_____
CST 216	3	Web Site Management	_____
11/12	SUBTOTAL		

Business Information Technology Track - Approved Electives (Select 9 Credits from the List Below)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Managerial Accounting	_____
ACE ---	1-4	Academic Career Experience	_____
CST 105	1	Outlook	_____
CST 107	1	Microsoft Publisher	_____
CST 115W	3	e-Commerce Concepts	_____
CST 184	3	Mobile Apps Programming - iOS	_____
CST 185	3	Android Application Development	_____
CST 273	2	MS Applications Using Visual BASIC	_____
CST 210	2	Advanced Web Page Development	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
ENT 231W	3	Entrepreneurship/Small Business Management II	_____
MGT 143	3	Principles of Advertising	_____
9	SUBTOTAL		

Business Information Management Track - Required Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Financial Accounting	_____
CST 115W	3	e-Commerce Concepts	_____
CST 235	3	Systems Analysis and Design	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
MGT 256	3	Human Resources Management I	_____
15/16	SUBTOTAL		

Business Information Management Track - Approved Electives (Choose 5 Credits from the List Below)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Managerial Accounting	_____
ACE ---	1-4	Academic Career Experience	_____
CST 105	1	Outlook	_____
CST ---	1/4	Any Computer Science & Information Technology Course	_____
ENT 231W	3	Entrepreneurship/Small Business Management II	_____
MGT 143	3	Principles of Advertising	_____
MGT 245	3	Principles of Management	_____
5	SUBTOTAL		

62/67 TOTAL CREDITS REQUIRED FOR BUSINESS INFORMATION TECHNOLOGY DEGREE

62/67 TOTAL CREDITS REQUIRED FOR BUSINESS INFORMATION MANAGEMENT DEGREE

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Computer Science and Information Technology - Business & Information Technology - Advanced Certificate

Program Code: CBA.35131

A specialist in Business Information Technology has proficiency in a broad set of computer applications including word processing, spreadsheets, communications, database, and the Internet.

Required Courses

Course	Credits	Course Title	Completed
CST 103	1	Windows Foundations	_____
CST 104	1	Microsoft Word Foundations	_____
CST 106	1	Internet Foundations	_____
CST 110	1	Web Page Development Using HTML	_____
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 123	1	Windows Operating System	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 147	2	Electronic Media Communication	_____
CST 155	3	Microsoft EXCEL	_____
CST 171	2	Visual BASIC Programming I	_____
CST 173	2	Introduction to Programming	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
MGT 110	3	Business Mathematics	_____
MGT 153W	3	Introduction to Business	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A COMPUTER SCIENCE AND TECHNOLOGY -BIT-ASSOCIATE IN BUSINESS STUDIES DEGREE.

30 TOTAL CREDITS

1. A grade of "C" or higher is required in all courses for the certificate.
2. CST 103, CST 123, CST 133W, CST 147, CST 155, CST 204 and CST 257 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the standard time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **CST/Business & Information Technology-Advanced Certificate**

CST/Business & Information Technology-Advanced Certificate

Total Program Cost (In District):	\$4,651.00
On-Time Completion Rate:	50.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Computer Science and Information Technology - IST - Criminal Technology - Associate in Applied Science

Program Code: AAS.17165

This program is designed to prepare you for challenging positions in the rapidly growing field of Information Security and Technology. Criminal Technology covers the legal side of securing information as well as the technological side, by combining Criminal Justice classes with CST networking classes.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
MTH---	3/4	Any Approved Intermediated Algebra Course or Higher	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG ---	(3)	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
PHL 210W	2	Information Technology Ethics & Law	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 211W	4	General Psychology	_____
23/25	SUBTOTAL		

Required Courses

Course	Credits	Course Title	Completed
CJ 110W	3	Introduction to Criminal Justice	_____
CJ 182W	3	Introduction to Security	_____
CJ 210W	3	Introduction to Criminal Investigation	_____
CJ 211W	3	Private Security and Investigative Methods	_____
CJ 215W	3	Introduction to Homeland Security	_____
CJ 220W	3	Crime Laboratory Techniques	_____
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 126	2	Unix/Linux Operating System	_____
CST 128	4	PC Hardware Concepts and Troubleshooting	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 161	3	Introduction to Networking	_____
CST 228	4	Advanced PC Troubleshooting (A+)	_____
CST 260	3	Scaling Networks	_____
CST 266	4	Information Security	_____
CST 267	3	Introduction to Computer Forensics	_____
46	SUBTOTAL		

Group I Electives (Choose one course from list)

Course	Credits	Course Title	Completed
CST 159	2	Introduction to Oracle Database Management	_____
CST 162	2	Introduction to Novell Network Administration	_____
CST 163	2	Introduction to Windows Network Administration	_____
CST 164	3	Routing and Switching Essentials	_____
CST 165	3	Linux Networking I	_____
2/3	SUBTOTAL		

Group II Electives (Choose one course from list)

Course	Credits	Course Title	Completed
CST 259	3	Advanced Oracle Database Management	_____
CST 262	3	Advanced Novell Networking	_____
CST 263	3	Advanced Microsoft Networking	_____
CST 264	3	Connecting Networks	_____
CST 265	3	Linux Networking II	_____
CST 269	3	Cisco Security	_____
3	SUBTOTAL		
74/77	TOTAL CREDITS		

1. A grade of "C" (2.0) or higher is required in OAT 151 and OAT 152 (or ENG Comp I and II/113) and ALL Required Core and Elective Courses for the degree.
2. CST 126, CST 128, CST 133W, CST 161, CST 228, CST 260, CST 266, CST 267, and ALL Elective courses are Key courses. Key courses must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course.
3. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the Math General Education requirement.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Computer Science and Information Technology - IST - Criminal Technology - Post Associate Certificate

Program Code: CTP.35165

Criminal Technology covers the legal side of securing information as well as the technological side, by combining Criminal Justice classes with CST networking classes.

Required Courses

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	_____
CJ 270W	3	Evidence and Criminal Procedure	_____
CJ 271W	3	Criminal Law	_____
CST 235	3	Systems Analysis and Design	_____
MTH 120	3	Finite Mathematics	_____

15 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.
5. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Computer Science and Information Technology - IST - Cyber Security - Associate in Applied Science

Program Code: AAS.17172

The program is designed to prepare you for challenging positions in the rapidly growing field of Information Security and Technology. Information Assurance provides the skills and knowledge to protect, and if necessary, recover information from an information system.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
MTH---	3/4	Any Approved Intermediated Algebra Course or Higher	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG ---	(3)	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
PHL 210W	2	Information Technology Ethics & Law	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 211W	4	General Psychology	_____
23/25	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 126	2	Unix/Linux Operating System	_____
CST 128	4	PC Hardware Concepts and Troubleshooting	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 150W	3	Information Security Policies, Procedures, and Fundamentals	_____
CST 152	3	Implementing Network Security	_____
CST 153	3	Implementing Firewalls	_____
CST 154W	3	Incident Response and Disaster Recovery	_____
CST 156	3	Implementing Wireless Security	_____
CST 158	3	Network Intrusion Security Testing	_____
CST 161	3	Introduction to Networking	_____
CST 260	3	Scaling Networks	_____
CST 164	3	LAN Switching and Wireless	_____
CST 264	3	Connecting Networks	_____
CST 266	4	Information Security	_____
45	SUBTOTAL		

Group I Electives (Choose 2 or 3 courses from list)

Course	Credits	Course Title	Completed
CST 159	2	Introduction to Oracle Database Management	_____
CST 162	2	Introduction to Novell Network Administration	_____
CST 163	2	Introduction to Windows Network Administration	_____
CST 165	3	Linux Networking I	_____
5/7	SUBTOTAL		

Group II Electives (Choose one course from list)

Course	Credits	Course Title	Completed
CST 259	3	Advanced Oracle Database Management	_____
CST 262	3	Advanced Novell Networking	_____
CST 263	3	Advanced Microsoft Networking	_____
CST 265	3	Linux Networking II	_____
CST 267	3	Introduction to Computer Forensics	_____
CST 269	3	Cisco Security	_____
3	SUBTOTAL		
76/80	TOTAL CREDITS		

1. A grade of "C" (2.0) or higher is required in OAT 151 and OAT 152 (or ENG Comp I and II/113) and ALL CST Required Core and Elective Courses for the degree.
2. CST 133, CST 153, CST 156, CST 161, CST 164, CST 260, CST 264, CST 266, and ALL Elective courses are Key Courses: Key courses must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course.
3. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the Math General Education requirement.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Computer Science and Information Technology - IST - Financial Security - Associate in Applied Science

Program Code: AAS.17170

This program is designed to prepare you for challenging positions in the rapidly growing field of Information Security and Technology. Financial Security provides the skills and knowledge to assess, protect, and recover financial information in financial systems.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
MTH---	3/4	Any Approved Intermediated Algebra Course or Higher	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG ---	(3)	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
PHL 210W	2	Information Technology Ethics & Law	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 211W	4	General Psychology	_____
23/25	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	_____
ACC 212	4	Principles of Accounting II	_____
ACC 227W	4	Intermediate Accounting I	_____
ACC 228W	4	Intermediate Accounting II	_____
ACC 233	3	Cost Accounting	_____
ACC 235	3	Financial Management	_____
CJ 110W	3	Introduction to Criminal Justice	_____
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 155	3	Microsoft EXCEL	_____
CST 161	3	Introduction to Networking	_____
CST 235	3	Systems Analysis and Design	_____
CST 257	3	Database MS Access	_____
CST 260	3	Scaling Networks	_____
CST 266	4	Information Security	_____
MGT 153W	3	Introduction to Business	_____
MGT 251W	3	Business Law I	_____
55	SUBTOTAL		

78/80 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in OAT 151 and OAT 152 (or ENG Comp I and II/113) and ALL Required Core Courses (except CJ 110, MGT 153 and MGT 251) for the degree.
2. ACC 227, ACC 228, CST 133, CST 155, CST 161 CST 235, CST 257, CST 260, CST 266 are Key courses. Key courses must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course.
3. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the Math General Education requirement.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Computer Science and Information Technology - IST - Financial Security - Post Associate Certificate

Program Code: CTP.35170

Financial Security provides the skills and knowledge to assess, protect, and recover financial information in financial systems.

Required Courses

Course	Credits	Course Title	Completed
ACC 214	4	Microcomputer Accounting Applications	_____
ACC 215W	3	Federal Tax Accounting	_____
CST 128	4	PC Hardware Concepts and Troubleshooting	_____
CST 267	3	Introduction to Computer Forensics	_____
MGT 245	3	Principles of Management	_____
MTH 208W	3	Elementary Statistics	_____

20 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. ACC 214, CST 128, and CST 267 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Computer Science and Information Technology - Network Administration - Advanced Certificate

Program Code: CTA.35135

A degree in Network Administration provides you with the skills for configuring and managing a system of interconnected computers that communicate with one another and share applications, data, and hardware components.

Required Courses

Course	Credits	Course Title	Completed
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 126	2	Unix/Linux Operating System	_____
CST 128	4	PC Hardware Concepts and Troubleshooting	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 161	3	Introduction to Networking	_____
CST 162	2	Introduction to Novell Network Administration	_____
CST 163	2	Introduction to Windows Network Administration	_____
CST 164	3	Routing and Switching Essentials	_____
CST 165	3	Linux Networking I	_____
24	SUBTOTAL		

Electives (Choose a minimum of 3 Credits)

Course	Credits	Course Title	Completed
CST 129	2	Mac OS Troubleshooting	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 150W	3	Information Security Policies, Procedures, and Fundamentals	_____
CST 152	3	Implementing Network Security	_____
CST 153	3	Implementing Firewalls	_____
CST 159	2	Database Operations	_____
CST 160	3	Networking Essentials	_____
3/4	SUBTOTAL		

Advanced Electives (Choose a minimum of 3 Credits)

Course	Credits	Course Title	Completed
CST 228	4	Advanced PC Troubleshooting	_____
CST 235	3	Systems Analysis and Design	_____
CST 258	1	Introduction to Structured Query Language	_____
CST 259	3	Database Administration	_____
CST 260	3	Scaling Networks	_____
CST 262	3	Advanced Novell Networking	_____
CST 263	3	Advanced Microsoft Networking	_____
CST 264	3	Connecting Networks	_____
CST 265	3	Linux Networking II	_____
CST 266	4	Information Security	_____
CST 267	3	Introduction to Computer Forensics	_____
CST 269	3	Cisco Security	_____
CST 278	3	A+ Certification Prep	_____
3/4	SUBTOTAL		

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A COMPUTER SCIENCE AND INFORMATION TECHNOLOGY - NETWORK TECHNOLOGY ASSOCIATE IN APPLIED ARTS DEGREE.

30/32 TOTAL CREDITS

1. All CST courses must be completed within 5 years of completing the program. Failure to complete within the stated time frame will required you to repeat the course. See graduation requirements page in catalog.
2. A grade of "C" (2.0) or higher is required in all CST courses.

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3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
 4. MTH 119 or any higher level Math course (except MTG 153) will meet the Math General Education requirement.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **CST/Network Administration - Advanced Certificate**

CST/Network Administration - Advanced Certificate

Total Program Cost (In District):	\$4,958.40
On-Time Completion Rate:	50.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Computer Science and Information Technology - Network Administration - Associate in Applied Science

Program Code: AAS.17135

A degree in Network Technology provides you with the skills for configuring and managing a system of interconnected computers that communicate with one another and share applications, data, and hardware components.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
PHL 210W	2	Information Technology Ethics & Law	_____
POL ---	3/4	Any Approved American Government Requirement	_____
20/24	SUBTOTAL		

Required Courses

Course	Credits	Course Title	Completed
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 126	2	Unix/Linux Operating System	_____
CST 128	4	PC Hardware Concepts and Troubleshooting	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 161	3	Introduction to Networking	_____
CST 162	2	Introduction to Novell Network Administration	_____
CST 163	2	Introduction to Windows Network Administration	_____
CST 164	3	Routing and Switching Essentials	_____
CST 165	3	Linux Networking I	_____
CST 270	3	Special Topics in Network Administration	_____
27	SUBTOTAL		

Electives (Choose a minimum of 8 Credits)

Course	Credits	Course Title	Completed
CST 129	2	Mac OS Troubleshooting	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 135	1	Help Desk Fundamentals	_____
CST 150W	3	Information Security Policies, Procedures, and Fundamentals	_____
CST 152	3	Implementing Network Security	_____
CST 153	3	Implementing Firewalls	_____
CST 159	2	Database Operations	_____
CST 160	3	Networking Essentials	_____

8/9 SUBTOTAL

Advanced Electives (Choose a minimum of 8 Credits)

Course	Credits	Course Title	Completed
CST 228	4	Advanced PC Troubleshooting	_____
CST 235	3	Systems Analysis and Design	_____
CST 258	1	Introduction to Structured Query Language	_____
CST 259	3	Database Administration	_____
CST 260	3	Scaling Networks	_____
CST 262	3	Advanced Novell Networking	_____
CST 263	3	Advanced Microsoft Networking	_____
CST 264	3	Connecting Networks	_____
CST 265	3	Linux Networking II	_____
CST 266	4	Information Security	_____
CST 267	3	Introduction to Computer Forensics	_____
CST 269	3	Cisco Security	_____
CST 278	3	A+ Certification Prep	_____

8/10 SUBTOTAL

63/70 TOTAL CREDITS

1. All CST courses must be completed within 5 years of completing the program. Failure to complete within the stated time frame will require you to repeat the course. See graduation requirements page in catalog.
2. A grade of "C" (2.0) or higher is required in all CST courses.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. MTH 119 or any higher level Math course (except MTH 153) will meet the Math General Education requirement.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Computer Science and Information Technology - IT Support - Advanced Certificate

Program Code: CTA.35136

The IT Support certificate is designed to prepare students for entry-level employment in various areas within the information technology field. Students will configure, monitor, secure, and administer network resources; as well as demonstrate technical skills and ability in analyzing, assessing, diagnosing, and troubleshooting hardware, software, network, and other desktop issues. Also, the IT Support certificate helps prepare learners to test for the CompTIA A+ certification as well as the TestOut PC Pro certification exams. These certifications make students more marketable to employers as certification validates foundation-level knowledge and skills necessary for a career in IT support. Additionally, students may apply this certificate as a step toward an associate's degree.

Core Courses

Course	Credits	Course Title	Completed
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 126	2	Unix/Linux Operating System	_____
CST 128	4	PC Hardware Concepts and Troubleshooting	_____
CST 129	2	Mac OS Troubleshooting	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 135	1	Help Desk Fundamentals	_____
CST 160	3	Networking Essentials	_____
CST 161	3	Introduction to Networking	_____
CST 163	2	Introduction to Windows Network Administration	_____
CST 228	4	Advanced PC Troubleshooting	_____
CST 268W	2	Special Topics in IT Support	_____
CST 278	3	A+ Certification Prep	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF THE COMPUTER SCIENCE AND INFORMATION TECHNOLOGY - IT SUPPORT - ASSOCIATE IN APPLIED SCIENCE DEGREE.

31 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CST 128, CST 129, CST 133, CST 161, CST 228, CST 268, and CST 278 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **CST/IT Support - Advanced Certificate**

CST/IT Support - Advanced Certificate

Total Program Cost (In District):	\$3,728.80
On-Time Completion Rate:	75.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Computer Science and Information Technology - IT Support - Associate in Applied Science

Program Code: AAS.17136

The IT Support program is designed to prepare students for entry-level employment in various areas within the information technology field. Students will configure, monitor, secure, and administer network resources; as well as demonstrate technical skills and ability in analyzing, assessing, diagnosing, and troubleshooting hardware, software, network, and other desktop issues. Also, the IT Support program helps prepare learners to test for the CompTIA A+ certification as well as the TestOut PC Pro certification exams. These certifications make students more marketable to employers as certification validates foundation-level knowledge and skills necessary for a career in IT support. Potential occupations include: Computer Support Specialist, IT Support Specialist, Help Desk Specialist, IT Consultant, Field Technician, Tech Support Technician, Field Supervisor, Systems Hardware Analyst and Network Support Specialist. Additionally, students may apply this program, as a step toward a bachelor's degree.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
MTH---	3/4	Any Approved Intermediate Algebra Course (or Higher)	_____
PHL 210W	2	Information Technology Ethics & Law	_____
POL ---	3/4	Any Approved American Government Requirement	_____
19/24	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
CST 120	1	PC Operating System Command Line Interface (DOS)	_____
CST 126	2	Unix/Linux Operating System	_____
CST 128	4	PC Hardware Concepts and Troubleshooting	_____
CST 129	2	Mac OS Troubleshooting	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 135	1	Help Desk Fundamentals	_____
CST 160	3	Networking Essentials OR	_____
CST 161	(3)	Introduction to Networking	_____
CST 163	2	Introduction to Windows Network Administration	_____
CST 268W	2	Special Topics in IT Support	_____
CST 228	4	Advanced PC Troubleshooting	_____
CST 278	3	A+ Certification Prep	_____
28	SUBTOTAL		

Recommended Electives (Choose a minimum of 6 credits from list)

Course	Credits	Course Title	Completed
CST 150W	3	Information Security Policies, Procedures, and Fundamentals	_____
CST 152	3	Implementing Network Security	_____
CST 153	3	Implementing Firewalls	_____
CST 159	2	Introduction to Oracle Database Management	_____
CST 162	2	Introduction to Novell Network Administration	_____
CST 164	3	Routing and Switching Essentials	_____
CST 165	3	Linux Networking I	_____
6	SUBTOTAL		

Advanced Electives (Choose a minimum of 9 credits from list)

Course	Credits	Course Title	Completed
ACE ---	2-6	Academic Career Experience	_____
CST 235	3	Systems Analysis and Design	_____
CST 260	3	Scaling Networks	_____
CST 262	3	Advanced Novell Networking	_____
CST 263	3	Advanced Microsoft Networking	_____
CST 265	3	Linux Networking II	_____
CST 266	4	Information Security	_____
CST 267	3	Introduction to Computer Forensics	_____
CST 269	3	Cisco Security	_____
9	SUBTOTAL		

62/67 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all CST courses.
2. CST 123, CST 128, CST 129, CST 133, CST 160, CST 161, CST 163, CST 183, CST 228, CST 268, and ALL CST Network/Programming Electives are Key courses and must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Any Approved Intermediate Algebra or higher except MTH 153 will meet the Math General Education requirement.
4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Computer Science and Information Technology - Programming - Associate in Applied Science

Program Code: AAS.17137

A Programming degree prepares you for designing and building computer software using a variety of programming languages.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication OR	_____
COM 114W	(3)	Interpersonal Communication	_____
OAT 151	3	Business Communication I AND	_____
ENG 111	3	College Composition I AND	_____
ENG 112	3	College Composition II	_____
		OR	
ENG 111	(3)	College Composition I AND	_____
OAT 151	(3)	Business Communication I AND	_____
ENG 113	(3)	Technical Communication	_____
		OR	
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
MTH---	3/4	Any Approved Intermediate Algebra Course or Higher	_____
PHL 210W	2	Information Technology Ethics & Law	_____
POL ---	3/4	Any Approved American Government Requirement	_____
19/24		SUBTOTAL	

Required Core Courses

Course	Credits	Course Title	Completed
CST 110	1	Web Page Development Using HTML	_____
CST 126	2	Unix/Linux Operating System	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 155	3	Microsoft EXCEL	_____
CST 171	2	Visual BASIC Programming I	_____
CST 173	2	Introduction to Programming	_____
CST 180	3	C++ Programming	_____
CST 183	4	Principles of Computer Programming I	_____
CST 184	3	Mobile Apps Programing - iOS OR	_____
CST 185	(3)	Android Application Development	_____

CST 186	2	Introduction to Game Programming	_____
CST 235	3	Systems Analysis and Design	_____
CST 257	3	Database MS Access	_____
CST 258	1	Introduction to Structured Query Language	_____
CST 271	3	Visual Basic Programming II	_____
CST 273	2	MS Applications Using Visual BASIC	_____
CST 283	4	Principles of Computer Programming II	_____
CST ---	1-3	Any Computer Science & Information Technology Course	_____

43/45 SUBTOTAL

62/69 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. A grade of "C" (2.0) or higher is required in the MTH course, and all CST courses, to earn the degree.
2. CST 133, CST 155, CST 180, CST 183, CST 185, CST 271, CST 273, and CST 283, are Key Courses. Key courses must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat this course.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. The above curricula are intended to prepare you for a career upon graduation from Delta College. If you are planning to transfer to a Baccalaureate degree program you should consult with a counselor before enrolling in computer, business, or general education courses so that specific transfer college requirements can be completed.
5. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the MTH--- course requirement.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Computer Science and Information Technology - Web - Advanced Certificate

Program Code: CTA.35138

A Web Information Technology Certificate is focused on creating, maintaining, and managing web pages and web sites on the Internet.

Core Courses

Course	Credits	Course Title	Completed
ART 115	3	Two Dimensional Design	_____
ART 241	3	Graphics Studio 1	_____
ART 243	3	Graphics Studio 3	_____
CST 115W	3	e-Commerce Concepts	_____
CST 126	2	Unix/Linux Operating System	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 173	2	Introduction to Programming	_____
CST 210	3	Website Development	_____
CST 214	3	Responsive Design	_____
CST 216	3	Web Site Management	_____

29 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. CST 133, CST 210, CST 214, CST 216 are Key courses and must be completed within 5 years of completing certificate or degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **CST/Web Information Technology - Advanced Certificate**

CST/Web Information Technology - Advanced Certificate

Total Program Cost (In District):	\$4,036.20
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Computer Science and Information Technology - Web - Associate in Applied Science

Program Code: AAS.17138

A Web Information Technology Degree is focused on creating, maintaining, and managing web pages and web sites on the Internet.

Core Courses

Course	Credits	Course Title	Completed
ART 115	3	Two Dimensional Design	_____
ART 241	3	Graphics Studio 1	_____
ART 242	3	Graphics Studio 2	_____
ART 243	3	Graphics Studio 3	_____
CST 115W	3	e-Commerce Concepts	_____
CST 126	2	Unix/Linux Operating System	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 173	2	Introduction to Programming	_____
CST 210	3	Website Development	_____
CST 214	3	Responsive Design	_____
CST 216	3	Web Site Management	_____
CST 217	3	Programming for the Web	_____
CST 218	3	Web Application Development	_____
CST 219W	2	Web Site Deployment	_____
CST 257	3	Database MS Access	_____
CST 258	1	Introduction to Structured Query Language	_____
44	SUBTOTAL		

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
		OR	
COM 114W	(3)	Interpersonal Communication	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
		OR	
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
		OR	
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course	_____
		AND	
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
MTH ---	3/4	Any Approved Intermediate Algebra Course or Higher	_____
PHL 210W	2	Information Technology Ethics & Law	_____
POL ---	3/4	Any Approved American Government Requirement	_____
19/21	SUBTOTAL		
63/65	TOTAL CREDITS		

1. A grade of "C" (2.0) or higher is required in all Core courses and the Math General Education requirement.
2. CST 133W, CST 210, CST 214, CST 216, CST 217, CST 219W, CST 257, and CST 258 are Key courses and must be completed within 5 years of completing certificate or degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. MTH 119 or any higher level Math course (with the exception of MTH 153) will meet the Math General Education requirement.

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4. Proficiency in keyboarding is expected in all CST classes. OAT 170 is available for those students who need to build keyboarding skills.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Construction Management - Associate in Applied Science

Program Code: AAS.15875

The Construction Management program is designed to acquaint you with management/business operations and knowledge of the practices and procedures relating to the construction industry. The construction course will acquaint you with various materials, procedures, types of fabrication, and methods of resolution. Technical problem solving will be stressed.

The business components of this program will teach you basic business structure and practices. Such training is invaluable in the start-up and maintenance of a profitable construction business. Other avenues of employment can be sought in construction supervision, material representation, and material management and control.

General Education Courses

Course	Credits	Course Title	Completed
COM 202W	3	Oral Communication for Managers	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
		OR	
LW 223W	(2)	Wellness in Technical Trades	_____
OAT 151	3	Business Communication I	_____
OAT 152	3	Business Communication II	_____
POL ---	3/4	Any Approved American Government Requirement	_____
MTH ---	4	Any Approved Intermediate Algebra Course or Higher	_____
18/19	SUBTOTAL		

Core Program Requirements

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	_____
ARC 111	3	Mechanical and Electrical Systems for Buildings	_____
ARC 204	3	Estimating Building Construction	_____
ARC 211	2	Elements of Structural Design	_____
ARC 221	3	Site Preparation	_____
RC 101	3	Construction Print Interpretation	_____
TTI 110	2	Sustainable Building Principles	_____
19	SUBTOTAL		

Successful completion of the Core Program courses prepare the student for completing the Architectural Technology Associate Degree, the Construction Management Associate Degree, or the Residential Construction Degree. Please refer to the catalog page for the relevant Program Requirement Courses for those programs.

Management Related Courses, Program Requirements

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
MGT 251W	3	Business Law I	_____
18/20	SUBTOTAL		

Construction Related Courses, Program Requirements

Course	Credits	Course Title	Completed
RC 106	3	Concrete and Foundations	_____
RC 108	2	Construction Safety	_____
RC 120	1	Construction Management Portfolio OR	_____
RC 201	(4)	Rough and Outside Framing AND	_____
RC 204	(4)	Inside Finishing and Hardware	_____
RC 200W	3	Construction Contracting Rules and Regulations	_____
RC 203	3	Residential CAD	_____
TTI 120	3	Energy Auditing and Weatherization	_____

15/22 SUBTOTAL

70/80 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. A grade of "C" (2.0) or higher is required in all Basic Program course requirements.
2. RC 120 requires Construction Management (CM) Program Coordinator approval for permission to register. Students will have to document 2000 hours of recent and relevant construction experience to qualify for the RC 120 option.
3. Construction Management (CM) students are advised to contact the CM Program Coordinator before registering for RC 201 and RC 204. RC 201 is generally offered during the Fall semester and RC 204 is offered during the Winter semester.
4. If you plan to pursue a 3+1 program in management please meet with a counselor/academic advisor prior to the start of your second year.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Criminal Justice Corrections - Certificate of Achievement

Program Code: CSZ.35724

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by corrections agencies. As a graduate of this program, you would be prepared to seek employment as corrections officer, juvenile officer, or prepare for careers in probation/parole/courts, federal government, pre-law and many other related careers.

Certificate Requirements

Course	Credits	Course Title	Completed
CJ 130W	3	Introduction to Corrections	_____
CJ 132W	3	Client Relations in Corrections	_____
CJ 135W	3	Correctional Institutions and Facilities	_____
CJ 233W	3	Client Growth and Development	_____
CJ 238W	3	Legal Issues in Corrections	_____

15 TOTAL CREDITS REQUIRED

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Criminal Justice Corrections with Jail Officer Academy - Certificate of Achievement

Program Code: CSZ.35726

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, private security, or prepare for careers in pre-law and many other related careers.

Certificate Requirements

Course	Credits	Course Title	Completed
CJ 102	4	Jail Academy	_____
LWA 279	1	Defensive Tactics in Corrections	_____
LWT 170	1	Basic Life Support for the Health Care Provider	_____

6 TOTAL CREDITS REQUIRED

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
3. CJ 102, LWA 279, and LWT 170 are taken concurrently and together make up the Jail Academy (6 credits). For information about the Jail Academy, contact the Criminal Justice Training Center, 989-686-9108. LWA 279 with LW 170 fulfills the 2 required LWA credits for the Associate Degree.
4. The Local Corrections Office Certification will be awarded upon successful completion of the Jail Office Academy (JOA) Certificate Option.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Criminal Justice Corrections - Associate in Applied Arts

Program Code: AAA.25726

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

General Education Core Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication OR	_____
COM 114W	(3)	Interpersonal Communication OR	_____
COM 222	(3)	Introduction to Acting	_____
CST 133W	4	Computer Concepts & Competencies	_____
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 170	2	Keyboarding	_____
POL 103W	3	American Politics OR	_____
POL 104W	(4)	American Politics with Project OR	_____
POL 212W	(3)	State and Local Governments	_____
PSY 211W	4	Any PSY 211W General Psychology Course	_____
SOC 211W	3	Any SOC 211W Principles of Sociology Course	_____
SOC 215W	3	Sociology of Minority Groups	_____
30/35	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
CJ 110W	3	Introduction to Criminal Justice	_____
CJ 130W	3	Introduction to Corrections	_____
CJ 132W	3	Client Relations in Corrections	_____
CJ 135W	3	Correctional Institutions and Facilities	_____
CJ 233W	3	Client Growth and Development	_____
CJ 275W	3	Probation and Parole	_____
CJ 237W	3	Jails & Local Detention	_____
CJ 238W	3	Legal Issues in Corrections	_____
CJ 250	3	The Juvenile Offender	_____
--- ---	0/5	General Electives	_____
27/32	SUBTOTAL		

62 TOTAL CREDITS REQUIRED

1. A grade of "C" (2.0) or higher is required in all core courses except CJ250.
2. This Criminal Justice Program does not certify you for employment as a police enforcement officer as it does not incorporate the Basic Police Training (B.P.T.) Program.

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3. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
 4. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test. If proficiency can be demonstrated in computer concepts and competencies, additional electives may be substituted.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Criminal Justice Law Enforcement - Associate in Applied Arts

Program Code: AAA.25727

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

General Education Courses

Course	Credits	Course Title	Completed
COM 112	3	Any Approved Fundamentals of Oral Communication OR	_____
COM 114W	(3)	Interpersonal Communication OR	_____
COM 222	(3)	Introduction to Acting	_____
CST 133W	4	Computer Concepts & Competencies	_____
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
		OR	
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 170	2	Keyboarding	_____
POL 103W	3	American Politics OR	_____
POL 104W	(4)	American Politics with Project OR	_____
POL 212W	(3)	State and Local Governments	_____
PSY 211W	4	General Psychology	_____
SOC 211W	3	Principles of Sociology	_____
SOC 215W	3	Sociology of Minority Groups	_____
--- ---	4/5	Any approved Natural Science Course with Lab (MTA Transfer)	_____
--- ---	3/4	General Electives	_____
38/39		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
CJ 110W	3	Introduction to Criminal Justice	_____
CJ 111W	3	Police Administration	_____
CJ 112W	3	Police Operations	_____
CJ 210W	3	Introduction to Criminal Investigation	_____
CJ 220W	3	Crime Laboratory Techniques	_____
CJ 250	3	The Juvenile Offender	_____
CJ 270W	3	Evidence and Criminal Procedure	_____
CJ 271W	3	Criminal Law	_____
24		SUBTOTAL	

62/63 TOTAL CREDITS REQUIRED

1. A grade of "C" (2.0) or higher is required in all core courses.
2. If proficiency can be demonstrated in Keyboarding and Computer Concepts, additional electives may be substituted for the CST and/or OAT courses. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.

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3. May substitute an approved natural science elective including MTH 119 or higher with a grade of "C" or better for CJ 220. Please refer to the MTA information in the catalog. Lab science credit in two different areas would be particularly useful for transferring to a 4-year school and is required in the fulfillment of the MACRAO agreement.
 4. This program does not certify you for employment as a police officer as it does not incorporate the Basic Police Training (B.P.T.) Program.
 5. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
 6. You may be eligible for the Michigan Transfer Agreement (MTA). Consult the current catalog for MTA requirements.
 7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 8. Delta College reserves the right to modify graduation requirements.

Criminal Justice Law Enforcement with Basic Police Training - Certificate of Achievement

Program Code: CSZ.35725

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, private security, or prepare for careers in federal government, pre-law and many other related careers.

Core Courses

Course	Credits	Course Title	Completed
CJ 101	6	Police Recruit Training	_____
OAT 153	1	Police Report Writing	_____
LWA 280	2	Self-Defense/Fitness	_____
LWT 175	3	Advanced First Aid and Emergency Care	_____

12 TOTAL CREDITS REQUIRED

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. Courses are taken concurrently and together make up the Basic Police Training (B.P.T.) Academy. For information about B.P.T. students should contact the Delta College Police Academy (N-102, Main campus; phone 989-686-9108).
3. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
4. LWA 280 fulfills the 2 credit LW requirement for the Associate Degree.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Criminal Justice Law Enforcement with Basic Police Training - Associate in Applied Arts

Program Code: AAA.25725

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, conservation officer, juvenile officer, private security, or prepare for careers in federal government, CSI, detective, pre-law and many other related careers.

General Education Courses

Course	Credits	Course Title	Completed
COM 112	3	Any Approved Fundamentals of Oral Communication OR	_____
COM 114W	(3)	Interpersonal Communication OR	_____
COM 222	(3)	Introduction to Acting	_____
CST 133W	4	Computer Concepts & Competencies	_____
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
		OR	
ENG ---	(3)	Any Approved College Composition I Course	_____
ENG 113	(3)	Technical Communication	_____
OAT 170	2	Keyboarding	_____
POL 103W	3	American Politics OR	_____
POL 104W	(4)	American Politics with Project OR	_____
POL 212W	(3)	State and Local Governments	_____
PSY 211W	4	General Psychology	_____
SOC 211W	3	Principles of Sociology	_____
SOC 215W	3	Sociology of Minority Groups	_____
--- ---	4/5	Any approved Natural Science Course with Lab (MACRAO Transfer)	_____
32/34		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
CJ 101	6	Police Recruit Training	_____
CJ 110W	3	Introduction to Criminal Justice	_____
CJ 111W	3	Police Administration	_____
CJ 112W	3	Police Operations	_____
CJ 210W	3	Introduction to Criminal Investigation	_____
CJ 220W	3	Crime Laboratory Techniques	_____
CJ 250	3	The Juvenile Offender	_____
CJ 270W	3	Evidence and Criminal Procedure	_____
CJ 271W	3	Criminal Law	_____
OAT 153	1	Police Report Writing	_____
LWA 280	2	Self-Defense/Fitness	_____
LWT 175	3	Advanced First Aid and Emergency Care	_____
36		SUBTOTAL	

68/70 TOTAL CREDITS REQUIRED

1. Students who plan to take the Basic Police Training (B.P.T) should see their counselor/advisor or contact the Delta College Police Academy (N-102, Main campus; phone 989-686-9108).
2. A grade of "C" (2.0) or higher is required in all core courses.

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3. If proficiency can be demonstrated in Keyboarding and Computer Concepts, additional electives may be substituted for the CST and/or OAT courses. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
 4. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
 5. CJ 101, OAT 153, LW 280, and LWT 175 are taken concurrently and together make up the Basic Police Training (B.P.T) Academy. (12 credits) For information about B.P.T. contact the Delta College Police Academy. LWA 280 fulfills the 2-credit LW requirement for the Associate Degree.
 6. May substitute an approved natural science elective including MTH 119 or higher with a grade of "C" or better for CJ 220. Please refer to the MACRAO information in the catalog. Lab science credit in two different areas would be particularly useful for transferring to a 4-year school and is required in the fulfillment of the MACRAO agreement.
 7. You may be eligible for the MACRAO or Michigan Transfer Agreement (MTA). Consult the current catalog for MACRAO or MTA requirements.
 8. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 9. Delta College reserves the right to modify graduation requirements.

Criminal Justice Security - Loss Prevention Specialist - Certificate of Achievement

Program Code: CSZ.35723

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as private security, or prepare for careers in federal government, CSI, detective, pre-law and many other related careers.

Security/Loss Prevention Specialist Option

Course	Credits	Course Title	Completed
CJ 110W	3	Introduction to Criminal Justice	_____
CJ 182W	3	Introduction to Security	_____
CJ 187W	3	Current Issues in Security	_____
CJ 211W	3	Private Security and Investigative Methods	_____
CJ 215W	3	Introduction to Homeland Security	_____
CJ 271W	3	Criminal Law	_____

18 TOTAL CREDITS REQUIRED

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Criminal Justice Security - Loss Prevention Specialist - Associate in Applied Arts

Program Code: AAA.25723

The Delta College Criminal Justice program is designed to give you specialized knowledge of the criminal justice field combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, depending on the option chosen, you would be prepared to seek employment as a police officer, corrections officer, conservation officer, public safety dispatcher, juvenile officer, private security, or prepare for careers in probation/parole/courts, federal government, CSI, detective, pre-law and many other related careers.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication OR	_____
COM 114W	(3)	Interpersonal Communication OR	_____
COM 222	(3)	Introduction to Acting	_____
CST 133W	4	Computer Concepts & Competencies	_____
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
		OR	
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 170	2	Keyboarding	_____
POL 103W	3	American Politics OR	_____
POL 104W	(4)	American Politics with Project OR	_____
POL 212W	(3)	State and Local Governments	_____
PSY 211W	4	General Psychology	_____
SOC 211W	3	Principles of Sociology	_____
SOC 215W	3	Sociology of Minority Groups	_____
30/31		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	_____
CJ 110W	3	Introduction to Criminal Justice	_____
CJ 182W	3	Introduction to Security	_____
CJ 187W	3	Current Issues in Security	_____
CJ 211W	3	Private Security and Investigative Methods	_____
CJ 215W	3	Introduction to Homeland Security	_____
CJ 271W	3	Criminal Law	_____
LWT 165	1	Community First Aid	_____
MGT 251W	3	Business Law I	_____
--- ---	5/6	General Electives	_____
31/32		SUBTOTAL	
62/63		TOTAL CREDITS REQUIRED	

1. A grade of "C" (2.0) or higher is required in all core courses. (Excluding LWT 165 and general electives)

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2. If proficiency can be demonstrated in computer competencies, additional electives may be substituted.
 3. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
 4. Employment within the Criminal Justice field may be delayed or denied depending on a history of convictions involving felonies, misdemeanors, and/or involving controlled substances.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.
 7. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Dental Assisting - Advanced Certificate

Program Code: CHA.35512

As a graduate of this program, you will be prepared to assist the dentist in diagnostic, operative, restorative, preventive and surgical procedures, as well as perform independent duties once you pass the RDA exam. Registered Dental Assistants in Michigan place and carve amalgam restorations; do selective coronal polishing; place sealants, fluoride, periodontal dressings, temporary crowns, dental dams, cavity liners and bases, orthodontic elastics and ligatures and arch wires; take impressions and radiographs; remove sutures; provide patient education; perform business office, laboratory and infection control duties. Opportunities are available for full-time and part-time employment in private dental offices and clinics as well as military, sales, research, and teaching. Salary depends on experience, duties and responsibility, geographic location and individual employer. Employment opportunities are comparable to the economy within the Great Lakes Bay Region and the state of Michigan. You should display the following positive attributes; manual dexterity; physical and mental health; vision; communication skill; ability to work as a team member; ability to follow directions; professional judgment and conduct; neat work habits; professional appearance and maintain personal hygiene; commitment to continuing education. Upon completing this program, you are eligible to take the certification exam of the Dental Assisting National Board to become a Certified Dental Assistant (CDA) and the Michigan Department of Community Health exam to become a Registered Dental Assistant (RDA). This program is accredited by the Commission on Dental Accreditation of the American Dental Association.

General Education Prerequisite Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	_____
OR			
BIO 152W	(4)	Human Anatomy & Physiology I AND	_____
BIO 153W	(4)	Human Anatomy & Physiology II	_____
COM 112W	3	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
ENG ---	3	Any Approved College Composition I Course	_____
OR			
OAT 151	(3)	Business Communication I	_____
11/14 SUBTOTAL			

ONE-YEAR TRACK - The following courses must be taken in the sequence shown.

ONE-YEAR TRACK - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 106W	2	Infection Control	_____
DA 110	3	Clinical Dental Assisting I	_____
DA 110LW	4	Clinical Dental Assisting I Lab	_____
DA 113W	4	Oral Anatomy & Physiology	_____
DA 114W	2	Dental Materials I	_____
DA 117W	1	Dental Health and Nutrition	_____
HSC 140	2	Basic Medical Emergencies	_____
18 SUBTOTAL			

ONE-YEAR TRACK - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 120	3	Clinical Dental Assisting II	_____
DA 120LW	4	Clinical Dental Assisting II Lab	_____
DA 121W	3	Clinical Practice	_____
DA 123W	2	Dental Radiology	_____
DA 123LW	2	Dental Radiology Lab	_____
DA 125W	2	Dental Materials II	_____
DA 125LW	2	Dental Materials II Lab	_____
18 SUBTOTAL			

ONE-YEAR TRACK - SPRING SESSION

Course	Credits	Course Title	Completed
DA 129W	2	Dental Office Management	_____
DA 131W	1	RDA Exam Prep	_____
DA 131LW	5	RDA Exam Prep Lab	_____
8	SUBTOTAL		

ONE-YEAR TRACK - SUMMER SESSION

Course	Credits	Course Title	Completed
DA 130	6	Dental Assisting Internship	_____
DA 133	1	Dental Assisting Internship Seminar	_____
7	SUBTOTAL		

TWO-YEAR TRACK - The following courses must be taken in the sequence shown.

TWO-YEAR TRACK FIRST YEAR - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 106W	2	Infection Control	_____
DA 113W	4	Oral Anatomy & Physiology	_____
DA 117W	1	Dental Health and Nutrition	_____
HSC 140	2	Basic Medical Emergencies	_____
9	SUBTOTAL		

TWO-YEAR TRACK FIRST YEAR - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 123W	2	Dental Radiology	_____
DA 123LW	2	Dental Radiology Lab	_____
4	SUBTOTAL		

TWO-YEAR TRACK FIRST YEAR - SPRING SESSION

Course	Credits	Course Title	Completed
DA 129W	2	Dental Office Management	_____
2	SUBTOTAL		

TWO-YEAR TRACK SECOND YEAR - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 110	3	Clinical Dental Assisting	_____
DA 110LW	4	Clinical Dental Assisting I Lab	_____
DA 114W	2	Dental Materials I	_____
9	SUBTOTAL		

TWO-YEAR TRACK SECOND YEAR - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 120	3	Clinical Dental Assisting II	_____
DA 120LW	4	Clinical Dental Assisting II Lab	_____
DA 121W	3	Clinical Practice	_____
DA 125W	2	Dental Materials II	_____
DA 125LW	2	Dental Materials II Lab	_____
14	SUBTOTAL		

TWO-YEAR TRACK SECOND YEAR - SPRING SESSION

Course	Credits	Course Title	Completed
DA 131W	1	RDA Exam Prep	_____
DA 131LW	5	RDA Exam Prep Lab	_____
6	SUBTOTAL		

TWO-YEAR TRACK SECOND YEAR - SUMMER SESSION

Course	Credits	Course Title	Completed
DA 130W	6	Dental Assisting Internship	_____
DA 133W	1	Dental Assisting Internship Seminar	_____
7	SUBTOTAL		

62/65 TOTAL CREDITS REQUIRED

1. Due to the limited capacity of the Delta College dental facilities and the specific requirements of the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs, enrollment is limited.
2. You must achieve a "C" (2.0) minimum grade in each DA course to be eligible to continue enrollment in this program.
3. Core prerequisite courses must be completed prior to taking any DA course. A grade of "C" (2.0) or higher is required in all courses for the certificate.
4. Once enrolled in the DA course sequence, you will be required to provide documentation of a current physical exam including a Hepatitis B and TB Carrier test prior to enrolling in any second semester course. A Hepatitis B vaccination is strongly recommended by the faculty and by the Commission on Dental Accreditation.
5. In addition to tuition, textbook costs, and supply costs, you must purchase laboratory attire and other infectious disease barriers. You must provide your own transportation to dental office facilities and internship office assignments. You must supply your own patients for DA 123L.
6. HSC 140 can be taken prior to enrollment in the program for CPR certification. However, if HSC 140 is taken prior to enrollment into the Dental Assisting program, you must maintain valid CPR certification for the second semester of the program and the sequential courses. It is also required for the Certification Exam and the Registered Dental Assistant Exam.
7. Validation is not required for this Health program.
8. This program can be completed in a one-year track or a two-year track option. A limited number of two-year track seats are available each year. See the program coordinator for two-year track scheduling assistance.
9. Students seeking to transfer credit to another college or university should take the approved English composition courses instead of OAT courses; also BIO 152 and BIO 153 instead of BIO 140. Consult with the Advising office for assistance with course selection.
10. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
11. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Dental Assisting - Advanced Certificate**

Dental Assisting - Advanced Certificate

Total Program Cost (In District):	\$11,144.40
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Dental Assisting - Associate in Applied Science

Program Code: AAS.20510

As a graduate of this program, you will be prepared to assist the dentist in diagnostic, operative, restorative, preventive and surgical procedures, as well as perform independent duties once you pass the RDA exam. Registered Dental Assistants in Michigan place and carve amalgam restorations; do selective coronal polishing; place sealants, fluoride, periodontal dressings, temporary crowns, dental dams, cavity liners and bases, orthodontic elastics and ligatures and arch wires; take impressions and radiographs; remove sutures; provide patient education; perform business office, laboratory and infection control duties. Opportunities are available for full-time and part-time employment in private dental offices and clinics as well as military, sales, research, and teaching. Salary depends on experience, duties and responsibility, geographic location and individual employer. Employment opportunities are comparable to the economy within the Great Lakes Bay Region and the state of Michigan. You should display the following positive attributes; manual dexterity; physical and mental health; vision; communication skill; ability to work as a team member; ability to follow directions; professional judgment and conduct; neat work habits; professional appearance and maintain personal hygiene; commitment to continuing education. Upon completing this program, you are eligible to take the certification exam of the Dental Assisting National Board to become a Certified Dental Assistant (CDA) and the Michigan Department of Community Health exam to become a Registered Dental Assistant (RDA). This program is accredited by the Commission on Dental Accreditation of the American Dental Association.

General Education Prerequisite Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	_____
OR			
BIO 152W	(4)	Human Anatomy & Physiology I AND	_____
BIO 153W	(4)	Human Anatomy & Physiology II	_____
AND			
COM 112W	3	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
ENG ---	3	Any Approved College Composition I Course	_____
OR			
OAT 151	(3)	Business Communication I	_____
11/14	SUBTOTAL		

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition II Course	_____
OR			
OAT 152	(3)	Business Communication II	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology	_____
OR			
PSY 211W	(4)	General Psychology	_____
11/13	SUBTOTAL		

ONE-YEAR TRACK - The following courses must be taken in the sequence shown.

ONE-YEAR TRACK - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 106W	2	Infection Control	_____
DA 110	3	Clinical Dental Assisting I	_____
DA 110LW	4	Clinical Dental Assisting I Lab	_____
DA 113W	4	Oral Anatomy & Physiology	_____
DA 114W	2	Dental Materials I	_____
DA 117W	1	Dental Health and Nutrition	_____
HSC 140	2	Basic Medical Emergencies	_____
18	SUBTOTAL		

ONE-YEAR TRACK - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 120	3	Clinical Dental Assisting II	_____
DA 120LW	4	Clinical Dental Assisting II Lab	_____
DA 121W	3	Clinical Practice	_____
DA 123W	2	Dental Radiology	_____
DA 123LW	2	Dental Radiology Lab	_____
DA 125W	2	Dental Materials II	_____
DA 125LW	2	Dental Materials II Lab	_____
18	SUBTOTAL		

ONE-YEAR TRACK - SPRING SESSION

Course	Credits	Course Title	Completed
DA 129W	2	Dental Office Management	_____
DA 131W	1	RDA Exam Prep	_____
DA 131LW	5	RDA Exam Prep Lab	_____
8	SUBTOTAL		

ONE-YEAR TRACK - SUMMER SESSION

Course	Credits	Course Title	Completed
DA 130	6	Dental Assisting Internship	_____
DA 133	1	Dental Assisting Internship Seminar	_____
7	SUBTOTAL		

TWO-YEAR TRACK - The following courses must be taken in the sequence shown.

TWO-YEAR TRACK FIRST YEAR - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 106W	2	Infection Control	_____
DA 113W	4	Oral Anatomy & Physiology	_____
DA 117W	1	Dental Health and Nutrition	_____
HSC 140	2	Basic Medical Emergencies	_____
9	SUBTOTAL		

TWO-YEAR TRACK FIRST YEAR - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 123W	2	Dental Radiology	_____
DA 123LW	2	Dental Radiology Lab	_____
4	SUBTOTAL		

TWO-YEAR TRACK FIRST YEAR - SPRING SESSION

Course	Credits	Course Title	Completed
DA 129W	2	Dental Office Management	_____
2	SUBTOTAL		

TWO-YEAR TRACK SECOND YEAR - FALL SEMESTER

Course	Credits	Course Title	Completed
DA 110	3	Clinical Dental Assisting	_____
DA 110LW	4	Clinical Dental Assisting I Lab	_____
DA 114W	2	Dental Materials I	_____
10	SUBTOTAL		

TWO-YEAR TRACK SECOND YEAR - WINTER SEMESTER

Course	Credits	Course Title	Completed
DA 120	3	Clinical Dental Assisting II	_____
DA 120LW	4	Clinical Dental Assisting II Lab	_____
DA 121W	3	Clinical Practice	_____
DA 125W	2	Dental Materials II	_____
DA 125LW	2	Dental Materials II Lab	_____
14	SUBTOTAL		

TWO-YEAR TRACK SECOND YEAR - SPRING SESSION

Course	Credits	Course Title	Completed
DA 131W	1	RDA Exam Prep	_____
DA 131LW	5	RDA Exam Prep Lab	_____
6	SUBTOTAL		

TWO-YEAR TRACK SECOND YEAR - SUMMER SESSION

Course	Credits	Course Title	Completed
DA 130W	6	Dental Assisting Internship	_____
DA 133W	1	Dental Assisting Internship Seminar	_____
7	SUBTOTAL		

73/79 TOTAL CREDITS REQUIRED

1. Due to the limited capacity of the Delta College dental facilities and the specific requirements of the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs, enrollment is limited.
2. Once enrolled in the DA course sequence, you will be required to provide documentation of a current physical exam including a Hepatitis B and TB Carrier test prior to enrolling in any second semester course. A Hepatitis B vaccination is strongly recommended by the faculty and by the Commission on Dental Accreditation.
3. In addition to tuition, textbook costs, and supply costs, you must purchase laboratory attire and other infectious disease barriers. You must provide your own transportation to dental office facilities and internship office assignments. You must supply your own patients for DA 123L.
4. HSC 140 can be taken prior to enrollment in the program for CPR certification. However, if HSC 140 is taken prior to enrollment into the Dental Assisting program, you must maintain valid CPR certification for the second semester of the program and the sequential courses. It is also required for the Certification Exam and the Registered Dental Assistant Exam.
5. General Education Prerequisite courses must be completed prior to taking any DA course. A grade of "C" (2.0) or higher is required in all courses for the program.
6. You must achieve a "C" (2.0) minimum grade in each DA course to be eligible to continue enrollment in this program.
7. Validation is not required for this Health program.
8. This program can be completed in a one-year track or a two-year track option. A limited number of two-year track seats are available each year. See the program coordinator for two-year track scheduling assistance.
9. Students who are seeking transfer credit to another college or university should take the approved English composition courses instead of the OAT courses; also BIO 152 and BIO 153 instead of BIO 140. Consult with the Counseling & Advising Center for help with your course selection.
10. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
11. Delta College reserves the right to modify graduation requirements.

Dental Assisting - General Management - Dual Associate Degree

Program Code: DE.30518

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
15/17		SUBTOTAL	

Electives (Choose 7/9 credits from the following courses)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/9		SUBTOTAL	
24		TOTAL CREDITS REQUIRED	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.
4. Credits required for a dual degree vary according to the chosen curricula.

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5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Dental Hygiene - Associate in Applied Science

Program Code: AAS.20515

As a graduate of the Delta College Dental Hygiene program, the student will have the knowledge and skills to provide preventive and periodontal treatment. The responsibilities of a registered dental hygienist generally include: scaling and root debridement, delivery of local anesthesia, nitrous oxide sedation, topical fluoride, antibiotic and antimicrobial medicament placement, impressions, diagnostic models, dental radiographs, dental education, nutritional counseling, and various laboratory procedures. The treatments and services are prescribed under the supervision of the dentist.

The Dental Hygiene program at Delta College is accredited by the Commission on Dental Accreditation of the American Dental Association (CODA). CODA is a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the U.S. Department of Education.

Upon successfully completing the CODA accredited Dental Hygiene program at Delta College, the student will be eligible to take the National, Regional and State Board Examinations for Dental Hygiene licensure.

There are various employment opportunities for the registered dental hygienist. The registered hygienist may choose employment in a general or specialty dental practice, schools, clinics, hospitals, HMOs, public health, or governmental agencies. The dental hygienist may also be employed in the area of management, research, sales, consulting or education.

General Education Courses

Course	Credits	Course Title	Completed
BIO 140	5	Essentials of Human Anatomy & Physiology	_____
OR			
BIO 152	(4)	Human Anatomy & Physiology I AND	_____
BIO 153	(4)	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
BIO 203W	4	General Microbiology	_____
COM 112W	3	Fundamentals of Oral Communication OR	_____
COM 114W	(3)	Interpersonal Communication	_____
DH 100	1	Dental Hygiene Profession	_____
DH 101	2	Dental Anatomy I	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101	3	Applied Psychology OR	_____
PSY 211	(4)	General Psychology	_____
SOC 211	3	Principles of Sociology	_____
30/35		SUBTOTAL	

Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application" and be officially validated. See Validation Procedures in this catalog for the required procedures.

Clinical Course Sequence

First Semester (Fall)

Course	Credits	Course Title	Completed
DH 110	2	Dental Infection Control	_____
DH 111	1	Oral Examinations	_____
DH 112	2	Medical Assessment/Emergencies	_____
DH 114	2	Oral Health	_____
DH 115	5	Clinical Techniques	_____
DH 116	3	Preventive Nutrition	_____
DH 118	3	Head and Neck Anatomy	_____
18		SUBTOTAL	

Second Semester (Winter)

Course	Credits	Course Title	Completed
DH 120	3	Periodontics I	_____
DH 121	2	Dental Hygiene Seminar I	_____
DH 122	3	Oral Histology and Embryology	_____
DH 123	2	Dental Radiography	_____
DH 123L	1	Dental Radiography Lab	_____
DH 124A	1	Pharmacology for Dental Hygiene I	_____
DH 125	4	Clinical Dental Hygiene I	_____
LW 206A	1	Occupational Wellness 1	_____
17	SUBTOTAL		

Third Semester (Spring)

Course	Credits	Course Title	Completed
DH 124B	1	Pharmacology for Dental Hygiene II	_____
DH 130	3	Management of Dental Pain and Anxiety in the Dental Office	_____
DH 131	1	Dental Hygiene Seminar II	_____
DH 135	3	Clinical Dental Hygiene II	_____
LWA 206B	.5	Occupational Wellness 2	_____
8.5	SUBTOTAL		

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
DH 210	2	Periodontics II	_____
DH 213	3	Oral Pathology	_____
DH 214W	4	Dental Materials	_____
DH 215	6	Clinical Dental Hygiene III	_____
DH 216W	2	Community Dentistry I	_____
DH 219W	0.5	Case Study Documentation I	_____
17.5	SUBTOTAL		

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
DH 222W	1.5	Case Study Documentation II	_____
DH 225	6	Clinical Dental Hygiene IV	_____
DH 227W	1	Community Dentistry II	_____
DH 228	1	Dental Hygiene Seminar III	_____
DH 229	2	Seminar on Practical Exam	_____
LWA 206C	0.5	Occupational Wellness 3	_____
12.0	SUBTOTAL		

103/108 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. A grade of "C" (2.0) or better is required in all prerequisite courses.
2. A minimum grade of "B" (3.0) is required in BIO 140.
3. For students considering the dental hygiene program it is highly recommended to schedule an appointment with a Health and Wellness Counselor/Advisor. This will be an opportunity to review the dental hygiene prerequisites, discuss the student's career choice, and possible transfer opportunities prior to starting the dental hygiene prerequisites.
4. Every Fall semester a maximum of 20 students will be accepted into the dental hygiene program.
5. Dental hygiene prerequisite qualifications are: a) high school graduate or GED equivalent; b) admission to Delta College; c) submission of complete transcripts from high school and other colleges attended to Delta College; d) successful completion of prerequisite courses; e) upon successful completion of the dental hygiene prerequisite courses the student must follow the validation procedures as outlined in Health Program procedures of this catalog.
6. Dental hygiene courses are offered mostly during day hours with some evening and Saturday hours, and must be taken together in the sequence shown. You must achieve a minimum "C" (2.0) grade in each dental hygiene course to be eligible to continue in the program.
7. After enrolling in the dental hygiene program, the student must have a complete physical examination, including TB and Hepatitis carrier tests. It is highly recommended that the student talk to the family physician about receiving the hepatitis vaccine before the student starts the dental hygiene program.
8. The student must maintain a current Professional Rescuer CPR certification throughout the dental hygiene program. In the state of Michigan the

registered dental hygienist must always have a current CPR Professional Rescuer certification.

9. In addition to tuition, fees, and textbook costs, the student must purchase laboratory coats, clinic shoes, scrubs, safety glasses, dental hygiene instrument kits, board examination fees, board review fees, and additional miscellaneous purchases. Please see the dental hygiene handbook for detailed information regarding the additional fees per semester.
10. Student re-entry procedures are printed in the handbook given to all dental hygiene program students.
11. Dental hygiene students are required to successfully complete DH 101 for Dental Anatomy. However, DA 113 Oral Anatomy & Physiology may be substituted for DH 101 if a "B" (3.0) or higher was achieved in the course.
12. According to State rules and regulations, licensure may be delayed or denied depending on the history of convictions involving felonies, misdemeanors, and/or involving controlled substances (including traffic violations). Questions dealing with this issue should be directed to the Michigan State Office of Health Services at (517) 335-0918.
13. Successful completion of LW 206A, LWA 206B, and LWA 206C meets the Lifelong Wellness graduation requirement.
14. Also see "Dual Degrees."
15. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
16. Delta College reserves the right to modify graduation requirements.

Dental Hygiene - General Management - Dual Associate Degree

Program Code: DE.30519

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
15/17		SUBTOTAL	

Electives (Choose 7/9 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/9		SUBTOTAL	
24		TOTAL CREDITS REQUIRED	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.

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4. Credits required for a dual degree vary according to the chosen curricula.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Diagnostic Medical Sonography - Advanced Certificate

Program Code: CHA.35545

Ultrasound is a diagnostic imaging modality that uses high frequency sound waves to obtain anatomical images of the abdominal, pelvic, fetus, and vasculature systems. A sonographer is a skilled health care professional who performs diagnostic ultrasound examinations under the direction of a physician. Sonographers use their knowledge of anatomy and physiology, pathology, and ultrasound physics in order to obtain quality images for interpretation. A sonographer must be proficient in problem solving and possess the ability to extrapolate pertinent patient history along with supporting clinical data to facilitate optimum diagnostic results. Upon successfully completing this program, students are eligible to take the national certification examination administered by the American Registry of Diagnostic Medical Sonographers to become entry-level general sonographers. This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL, 33763; ph: 727-210-2350; fx: 727-210-2354; www.caahep.org.

General Education Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	_____
OR			
BIO 152W	(4)	Human Anatomy & Physiology I AND	_____
BIO 153W	(4)	Human Anatomy & Physiology II	_____
COM 114W	3	Interpersonal Communication	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
HSC 105	2	Medical Terminology	_____
PHY 101	4	Applied Physics	_____
OR			
PHY 111	(4)	General Physics I	_____
20/23	SUBTOTAL		

Prior to attempting to register to begin the clinical sequence, you must complete the admission process for the DMS program. See notes.
Basic Program Requirements

First Semester (Fall)

Course	Credits	Course Title	Completed
DMS 100	1	Patient Care and Management	_____
DMS 105W	2	Ultrasound Physics and Instrumentation I	_____
DMS 107	.5	Introduction to Ultrasound Scanning	_____
DMS 107L	1.5	Introduction to Ultrasound Scanning Lab	_____
DMS 108W	2	Becoming a Master Sonography Student	_____
7	SUBTOTAL		

Second Semester (Winter)

Course	Credits	Course Title	Completed
DMS 101W	2	Introduction to Sonography	_____
DMS 103	3	Introduction to Abdominal Sonography	_____
DMS 104	2	Introduction to OB/GYN Sonography	_____
DMS 106W	4	Ultrasound Scanning	_____
11	SUBTOTAL		

Third Semester (Spring/Summer)

Course	Credits	Course Title	Completed
DMS 112	1	Small Parts Sonography	_____
DMS 113	1	Advanced Abdominal Sonography	_____
DMS 114	2	Advanced OB/GYN Sonography	_____
DMS 115	2	Ultrasound Physics and Instrumentation II	_____
DMS 116W	.5	Clinical Seminar I	_____
DMS 117W	5	Clinical Education I	_____
11.5	SUBTOTAL		

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
DMS 201	3	Introduction to Neurologic and Vascular Sonography	_____
DMS 202	4	Ultrasound Seminar I	_____
DMS 206W	.5	Clinical Seminar II	_____
DMS 207	5	Clinical Education II	_____
12.5	SUBTOTAL		

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
DMS 212	4	Ultrasound Seminar II	_____
DMS 217	5	Clinical Education III	_____
9	SUBTOTAL		

71/74 TOTAL CREDITS REQUIRED

1. Program qualifications include: (a) High school graduate or GED equivalent; (b) Be admitted to Delta College; (c) Provide transcripts from high school and other colleges attended.
2. A maximum of 14 students will be accepted each fall semester for the DMS program. Students will be eligible to register for clinical courses only after successful validation.
3. Prerequisite qualifications for Validation are: 1) meeting all admission criteria with the required nine (9) points; and 2) qualifying under Option A: Graduate of an accredited Allied Health Program meeting the program prerequisites either through transfer or waiver; or Qualifying under Option B: Completion of the following courses with a "B" (3.0) or better: BIO 140 or BIO 152 and BIO 153, HSC 105, PHY 101 or PHY 111, any approved College Composition I course, ENG 113, COM 114. Students must demonstrate English competency of READING LEVEL 4 and WRITING LEVEL 4, and Math competency of MATH LEVEL 4 prior to application for validation.
4. If you qualify under Option A as a Graduate of an accredited Allied Health Program meeting the program prerequisites either through transfer or waiver, but the program did not include college level physics, you will still be required to take PHY 101 or PHY 111 with a "B" (3.0) or better. Medical Radiography Physics will meet this requirement.
5. The procedure for application to the DMS program can be obtained from Counseling, the DMS web site (<http://www.delta.edu/health/sonography.aspx>), or the DMS Program Coordinator.
6. Students will be required to retake BIO 140 and HSC 105 (or equivalents) to validate if it has been longer than 5 years since they originally took the course.
7. Other program requirements: (a) Current CPR for Healthcare Provider certification is required for admission to the clinical sequence. CPR currency must be maintained throughout the program; (b) Submit a completed Student Physical Examination Form, which requires a negative TB test; (c) Submit evidence of Hepatitis B immunization or signed waiver form provided during orientation; (d) an annual flu shot is required.
8. Certification may be delayed or denied depending on the history of criminal convictions. Questions regarding this issue may be directed to the ARDMS (American Registry of Diagnostic Medical Sonographers) at www.ardms.org or (301) 738-8401.
9. In addition to tuition, fees, and textbook costs, you must purchase uniforms, name tags, background check and clinical shoes; provide your transportation to clinical settings; pay for meals, parking fees, and any medical treatment which may become necessary.
10. All students will be required to undergo a background check prior to admittance to the DMS program and may be required to have a drug screen and drivers record check, dependent upon clinical site assignments. Students with a felony conviction will not be admitted to the DMS program. All other misdemeanor offenses must be 10 years or older for admittance to the program. Delta College cannot guarantee students with a positive background check the clinical site placement needed to meet program requirements. Thus, program completion may not be possible regardless of the length of time since conviction.
11. DMS program courses must be taken together in the sequence shown. Clinical education courses are conducted primarily during daytime hours; however, off-shifts (second and third shifts) may be assigned to meet course objectives.
12. Students must achieve a "B" (3.0) minimum grade in each DMS course to be eligible to continue in and graduate from the DMS program. You must comply with all DMS program progression and retention policies (copies available from the Health Programs counselor or DMS program coordinator.).
14. Student clinical rotations will consist of two separate six-month placements. Many clinical sites are located outside the tri-city area and some are out of state. Students must be prepared to commute and/or relocate for at least one rotation.
15. All DMS students are expected to complete the ARDMS abdomen, obstetric/gynecology, and physics certifying boards. Students may complete the Abdomen and OB/GYN boards 60 days prior to program completion. Certification will be awarded after the student has officially completed the program.
16. Students may complete the physics certifying exam after successful completion of DMS 105 and 115 prior to program completion. Certification will

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- be awarded after the student has officially completed the program.
16. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
17. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Diagnostic Medical Sonography - Advanced Certificate**

Diagnostic Medical Sonography - Advanced Certificate

Total Program Cost (In District):	\$15,827.70
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Debt:	N/A

Diagnostic Medical Sonography - Associate in Applied Science

Program Code: AAS.20547

Ultrasound is a diagnostic imaging modality that uses high frequency sound waves to obtain anatomical images of the abdominal, pelvic, fetus, and vasculature systems. A sonographer is a skilled health care professional who performs diagnostic ultrasound examinations under the direction of a physician. Sonographers use their knowledge of anatomy and physiology, pathology, and ultrasound physics in order to obtain quality images for interpretation. A sonographer must be proficient in problem solving and possess the ability to extrapolate pertinent patient history along with supporting clinical data to facilitate optimum diagnostic results. Upon successfully completing this program, students are eligible to take the national certification examination administered by the American Registry of Diagnostic Medical Sonographers to become entry-level general sonographers. This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL, 33763; ph: 727-210-2350; fx: 727-210-2354; www.caahep.org..

General Education Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	_____
OR			
BIO 152W	(4)	Human Anatomy & Physiology I AND	_____
BIO 153W	(4)	Human Anatomy & Physiology II	_____
COM 114W	3	Interpersonal Communication	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
HSC 105	2	Medical Terminology	_____
PHY 101	4	Applied Physics	_____
OR			
PHY 111	(4)	General Physics I	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 211W	4	General Psychology	_____
PHL 215W	3	Health Care Ethics	_____
SOC 211W	3	Principles of Sociology	_____
33/37		SUBTOTAL	

Prior to attempting to register to begin the clinical sequence, you must complete the admission process for the DMS program. See notations.
Basic Program Requirements

First Semester (Fall)

Course	Credits	Course Title	Completed
DMS 100	1	Patient Care and Management	_____
DMS 105W	2	Ultrasound Physics and Instrumentation I	_____
DMS 107	0.5	Introduction to Ultrasound Scanning	_____
DMS 107L	1.5	Introduction to Ultrasound Scanning Lab	_____
DMS 108W	2	Becoming a Master Sonography Student	_____
7		SUBTOTAL	

Second Semester (Winter)

Course	Credits	Course Title	Completed
DMS 101W	2	Introduction to Sonography	_____
DMS 103	3	Introduction to Abdominal Sonography	_____
DMS 104	2	Introduction to OB/GYN Sonography	_____
DMS 106W	4	Ultrasound Scanning	_____
LW 206A	1	Occupational Wellness 1	_____
12		SUBTOTAL	

Third Semester (Spring/Summer)

Course	Credits	Course Title	Completed
DMS 112	1	Small Parts Sonography	_____
DMS 113	1	Advanced Abdominal Sonography	_____
DMS 114	2	Advanced OB/GYN Sonography	_____
DMS 115	2	Ultrasound Physics and Instrumentation II	_____
DMS 116W	.5	Clinical Seminar I	_____
DMS 117W	5	Clinical Education I	_____
11.5	SUBTOTAL		

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
DMS 201	3	Introduction to Neurologic and Vascular Sonography	_____
DMS 202	4	Ultrasound Seminar I	_____
DMS 206W	.5	Clinical Seminar II	_____
DMS 207	5	Clinical Education II	_____
LWA 206B	.5	Occupational Wellness 2	_____
LWA 206C	.5	Occupational Wellness 3	_____
13.5	SUBTOTAL		

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
DMS 212	4	Ultrasound Seminar II	_____
DMS 217	5	Clinical Education III	_____
9	SUBTOTAL		

86/90 TOTAL CREDITS REQUIRED

1. Program qualifications include: (a) High school graduate or GED equivalent; (b) Be admitted to Delta College; (c) Provide transcripts from high school and other colleges attended.
2. A maximum of 14 students will be accepted each fall semester for the DMS program. Students will be eligible to register for clinical courses only after successful validation.
3. Prerequisite qualifications for Validation are: 1) meeting all admission criteria with the required nine (9) points; and 2) qualifying under Option A: Graduate of an accredited Allied Health Program meeting the program prerequisites either through transfer or waiver; or Qualifying under Option B: Completion of the following courses with a "B" (3.0) or better: BIO 140 or BIO 152 and BIO 153, HSC 105, PHY 101 or PHY 111, any approved College Composition I course, ENG 113, COM 114. Students must demonstrate English competency of READING LEVEL 4 and WRITING LEVEL 4, and Math competency of MATH LEVEL 4 prior to application for validation.
4. If you qualify under Option A as a Graduate of an accredited Allied Health Program meeting the program prerequisites either through transfer or waiver, but the program did not include college level physics, you will still be required to take PHY 101 or PHY 111 with a "B" (3.0) or better. Medical Radiography Physics will meet this requirement.
5. The procedure for application to the DMS program can be obtained from Counseling, the DMS web site (<http://www.delta.edu/health/sonography.aspx>), or the DMS Program Coordinator.
6. Students will be required to retake BIO 140 and HSC 105 (or equivalents) to validate if it has been longer than 5 years since they originally took the course.
7. If not already completed, full-time student status can be maintained by taking POL, PSY 211W, PHL 215W and/or SOC 211W in the first semester of the clinical program. A grade of "C" (2.0) or better is required.
8. Other program requirements: (a) Current CPR for Healthcare Provider certification is required for admission to the clinical sequence. CPR currency must be maintained throughout the program; (b) Submit a completed Student Physical Examination Form, which requires a negative TB test; (c) Submit evidence of Hepatitis B immunization or signed waiver form provided during orientation; (d) an annual flu shot is required.
9. Certification may be delayed or denied depending on the history of criminal convictions. Questions regarding this issue may be directed to the ARDMS (American Registry of Diagnostic Medical Sonographers) at www.ardms.org or (301) 738-8401.
10. In addition to tuition, fees, and textbook costs, you must purchase uniforms, name tags, background check and clinical shoes; provide your transportation to clinical settings; pay for meals, parking fees, and any medical treatment which may become necessary.
11. All students will be required to undergo a background check prior to admittance to the DMS program and may be required to have a drug screen and drivers record check, dependent upon clinical site assignments. Students with a felony conviction will not be admitted to the DMS program. All other misdemeanor offenses must be 10 years or older for admittance to the program. Delta College cannot guarantee students with a positive background check the clinical site placement needed to meet program requirements. Thus, program completion may not be possible regardless of the length of time since conviction.
12. DMS program courses must be taken together in the sequence shown. Clinical education courses are conducted primarily during daytime hours; however, off-shifts (second and third shifts) may be assigned to meet course objectives.
13. Students must achieve a "B" (3.0) minimum grade in each DMS course to be eligible to continue in and graduate from the DMS program. You must achieve a "C" (2.0) or better in LW courses. You must comply with all DMS program progression and retention policies (copies available from the Health Programs counselor or DMS program coordinator.).
14. Student clinical rotations will consist of two separate six-month placements. Many clinical sites are located outside the tri-city area and some are out of state. Students must be prepared to commute and/or relocate for at least one rotation.

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15. All DMS students are expected to complete the ARDMS abdomen, obstetric/gynecology, and physics certifying boards. Students may complete the Abdomen and OB/GYN boards 60 days prior to program completion. Certification will be awarded after the student has officially completed the program.
 16. Students may complete the physics certifying exam after successful completion of DMS 105 and 115 prior to program completion. Certification will be awarded after the student has officially completed the program.
 17. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 18. Delta College reserves the right to modify graduation requirements.

Diagnostic Medical Sonography - General Management - Dual Associate Degree

Program Code: DE.30547

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
15/17		SUBTOTAL	

Electives (Choose 7/9 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/9		SUBTOTAL	
24		TOTAL CREDITS REQUIRED	

- In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.

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2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
 3. Student re-entry procedures are printed in the handbook given to all clinical students.
 4. Credits required for a dual degree vary according to the chosen curricula.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Digital Film Production - Advanced Certificate

Program Code: CEA.35330

When you complete this certificate, you will have been introduced to many aspects of film production: film aesthetics, screenwriting, filming, and editing. The certificate can also prepare you for further film studies and might help you find work in the film industry. In addition, courses in the certificate also provide a foundation for work in video advertising, videography, and the production of training films.

Course	Credits	Course Title	Completed
EM 280	3	Digital Film Capstone	_____
EMB 151	3	Media Production I	_____
EM 180	3	Digital Cinematography for Film	_____
EMB 155	4	Media Production II	_____
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
ENG 226W	3	Introduction to Film OR	_____
IHU 226W	(3)	Introduction to Film	_____
ENG 254	3	Creative Writing: Fiction	_____
ENG 258W	2	Introduction to Screenwriting	_____
27	SUBTOTAL		

One of the following courses is also required:

Course	Credits	Course Title	Completed
EMB 175W	3	Genres in Film History	_____
ENG 227W	3	The American Motion Picture	_____
ENG 259W	3	Advanced Screenwriting	_____
PHL 225W	3	Philosophy and Film	_____
3	SUBTOTAL		
30	TOTAL REQUIRED FOR ADVANCED CERTIFICATE		

1. For students planning on transferring to a 4-year institution ENG 111 and ENG 112 are recommended.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Digital Film Production - Advanced Certificate**

Digital Film Production - Advanced Certificate

Total Program Cost (In District):	\$4,726.00
On-Time Completion Rate:	57.14%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Electrical Utility Substation Worker - Advanced Certificate

Program Code: CTA.35811

This program is designed to prepare you for jobs in the Electrical Utility field. The Electrical Utility Substation Advanced Certificate program trains you for the duties and tasks required to repair and maintain an electrical utility substation. Completion of this program may preempt apprenticeship hours in the Substation/Electrical Utility field.

Required Courses

Course	Credits	Course Title	Completed
COM 114W	3	Interpersonal Communication	_____
SKDR 101	3	Blueprint Reading	_____
SKEL 103	2	OSHA Safety and Michigan Electrical Laws	_____
SKEL 104	2	Electric Substation Worker Orientation	_____
SKET 100	2	Electrical Calculations	_____
SKET 110	2	DC Circuits	_____
SKET 120	2	AC Circuits	_____
SKET 130	3	Conventional Controls	_____
SKET 132	3	Power Distribution	_____
SKET 134	2	Transformers	_____
SKET 136	2	Grounding	_____
SKET 138	2	Over-Current Protection	_____
SKET 210	4	Introduction to Electronics	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKTR 181W	4	Machine Tools I	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____

47 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. In addition to the program requirements, utility companies in general require that applicants have a valid driver's license and the ability to obtain a CDL license, pass a drug screening test, and not be a convicted felon. See http://www.michigan.gov/documents/cdlmanul_16090_7.pdf
3. Student is responsible for purchasing flame retardant smock, eyeglasses with shield, hardhat, and leather work boots for SKEL 104 orientation course.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Electrical Utility Substation Worker - Advanced Certificate**

Electrical Utility Substation Worker - Advanced Certificate

Total Program Cost (In District):	\$8,805.90
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Debt:	N/A

Electrical Utility Worker - Associate in Applied Science

Program Code: AAS.15813

The degree program is designed to prepare you for jobs in the Electrical Utility field. The Electrical Utility Substation Advanced Certificate program trains you for the duties and tasks required to repair and maintain an electrical utility substation. Completion of this program may preempt apprenticeship hours in the Substation/Electrical Utility field.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG 113	3	Technical Communication	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG ---	(3)	Any Approved College Composition II Course	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
COM 114W	3	Interpersonal Communication	_____
SKDR 101	3	Blueprint Reading	_____
SKEL 103	2	OSHA Safety and Michigan Electrical Laws	_____
SKEL 104	2	Electric Substation Worker Orientation	_____
SKET 100	2	Electrical Calculations	_____
SKET 110	2	DC Circuits	_____
SKET 120	2	AC Circuits	_____
SKET 130	3	Conventional Controls	_____
SKET 132	3	Power Distribution	_____
SKET 134	2	Transformers	_____
SKET 136	2	Grounding	_____
SKET 138	2	Over-Current Protection	_____
SKET 210	4	Introduction to Electronics	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKTR 181W	4	Machine Tools I	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____
47		SUBTOTAL	

Students must complete at least 6 elective credits.

Course	Credits	Course Title	Completed
		Any additional SKEL or SKET courses that are not listed in Core Courses (above).	_____
6		SUBTOTAL	

64/65 TOTAL CREDITS REQUIRED

1. A grade of "C" (2.0) or higher is required in all core courses.
2. ENG 113 is preferred but credit may be earned in other approved College Composition II courses.
3. In addition to the program requirements, utility companies in general require that applicants have a valid driver's license and the ability to obtain a CDL license, pass a drug screening test, and not be a convicted felon. See http://www.michigan.gov/documents/cdlmanul_16090_7.pdf
4. Student is responsible for purchasing flame retardant smock, eyeglasses with shield, hardhat, and leather work boots for the SKEL 104 orientation course.
5. The Lineworker portion of the Electrical Utility program was inactivated effective Spring 2011. Students meeting validation requirements, per the 2010/11 catalog, may be able to complete program requirements, Lineworker Level I, through transfer courses. Transfer credits are subject to program requirements as found on page 74 of the 2010/11 Delta College Catalog. Additionally, students seeking to complete this degree must also fulfill all Basic Requirements found on page 114 of the 2010/11 Delta College Catalog. The 2010/11 Delta College Catalog is available for viewing at: www.Delta.edu/catalog. Students not maintaining continuous enrollment will need to meet with Counseling/Advising & Career Services to initiate a catalog year waiver prior to submitting a graduation application.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Electronic Media (EM) - Associate in Applied Arts

Program Code: AAA.15340

The Delta College Electronic Media program provides students with a broad range of traditional classroom and laboratory learning opportunities as well as hands-on experience. The EM curriculum is designed to provide well-balanced instruction in the fields of broadcasting, multimedia production, and digital film. Beginning with an exploration of the history of broadcasting and film, students then study broadcast and film production. Additionally students will gain hands on experience in laboratory and real-time operating conditions. The EM program then concentrates on the growing and ever-changing fields of digital media productions and their practical applications.

For the Broadcasting Track students will utilize television production studios and computer labs to produce individual and group productions. The program also offers broadcasting students a chance to acquire professional experience while in school through internships with commercial radio and TV stations as well as practicum credit through WDCQ-TV/WDCP-TV and WUCX-FM, Delta College's Quality Public Television and Radio stations.

The Film Production Track in the Electronic Media discipline is a shared program between the Humanities and English Divisions. For the Digital Film Track students will experience hands-on opportunities with screenwriting, digital filming, editing, cinematography, and overall production. Additionally, the track provides fundamentals in the business of independent filmmaking.

Successful completion of the Electronic Media program will provide students with the fundamental information and experience necessary for entry level positions in communication and information industries. The EM degree will also provide a strong foundation for a student's further pursuit of a related undergraduate degree. Discussion regarding the best order for you to schedule the courses should be made with a Delta Electronic Media counselor. Check course descriptions for prerequisites. You must complete all required courses in this program.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
ENG 115	3	Mass Media	_____
MGT 110	3	Business Mathematics	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course OR	_____
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
20/21	SUBTOTAL		

Broadcasting Track Basic Program Requirements

Course	Credits	Course Title	Completed
EMB 140	3	Electronic Media History	_____
EMB 151	3	Media Production I	_____
EMB 152	2	Studio Productions	_____
EMB 153	3	Broadcast Performance	_____
EMB 154	2	Peripheral Multimedia Applications	_____
EMB 155	4	Media Production II	_____
EMB 211W	3	Writing for Broadcast & New Media OR	_____
ENG 116	(3)	News Writing	_____
EMB 227	3	Broadcast Sales OR	_____
MGT 143	(3)	Principles of Advertising	_____
EMB 255W	4	Media Production III	_____
PHL 205W	3	Media Ethics & Law OR	_____
EMB 229W	(3)	Women, Minorities, and the Media	_____
	1/3	Any Approved EM Internship or Practicum Course	_____
	11/14	Approved Electives (from list below)	_____
42/47	SUBTOTAL FOR BROADCASTING TRACK		

Approved Broadcasting Track Electives

Course	Credits	Course Title	Completed
EMB 131	2	Visual Graphic Presentation Applications	_____
EMB 141W	2	Fundamentals of Audio Production	_____
EMB 161	2	Podcasting, Online, and Mobile Media	_____
EMB 164	2	Digital Imaging for Video Editors	_____
EMB 175W	3	Genres in Film History	_____
EMB 229W	3	Women, Minorities, and the Media	_____
EMB 252	2	Studio Productions II	_____
EMB 277	2	EMB Portfolio	_____
EMB 279	3	Advanced Post Production	_____
EMB 281	1	Electronic Media Broadcasting Internship I	_____
EMB 282	2	Electronic Media Broadcasting Internship II	_____
EMB 283	3	Electronic Media Broadcasting Internship III	_____
EMB 284	2	Producing for Public Broadcasting TV	_____
EMB 285	2	Directing for Public Broadcasting TV	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
PHL 225W	3	Philosophy and Film	_____

Digital Film Track Basic Program Requirements

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers	_____
EM 180	3	Digital Cinematography for Film	_____
EM 280	3	Digital Film Capstone	_____
EMB 151	3	Media Production I	_____
EMB 154	2	Peripheral Multimedia Applications	_____
EMB 155	4	Media Production II	_____
EMB 279	3	Advanced Post Production	_____
ENG 226W	3	Introduction to Film	_____
ENG 254	3	Creative Writing: Fiction	_____
ENG 258W	2	Introduction to Screenwriting	_____
ENG 259W	3	Advanced Screenwriting	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
	7	Approved Electives (from list below)	_____
42	SUBTOTAL FOR DIGITAL FILM TRACK		

Approved Digital Film Track Electives

Course	Credits	Course Title	Completed
EMB 141W	2	Fundamentals of Audio Production	_____
EMB 161	2	Podcasting, Online, and Mobile Media	_____
EMB 164	2	Digital Imaging for Video Editors	_____
EMB 175W	3	Genres in Film History	_____
EMB 229W	3	Women, Minorities, and the Media	_____
EMB 277	2	EMB Portfolio	_____
ENG 214	3	Introduction to Professional Writing	_____
ENG 216W	3	New Media Writing	_____
ENG 227W	3	The American Motion Picture	_____
PHL 225W	3	Philosophy and Film	_____

62/68 TOTAL CREDITS REQUIRED FOR BROADCASTING TRACK

62/63 TOTAL CREDITS REQUIRED FOR DIGITAL FILM TRACK

1. You must complete the prerequisite courses EMB 154 and EMB 155 before enrolling in EMB 279.
2. Based on available facilities and equipment, this program is considered a "limited" enrollment program.
3. If you are planning to transfer, please work closely with the Program Counselor or discipline faculty.
4. More than one practicum/internship can be taken for the Broadcasting Track as elective credit.
5. Students can choose to complete the Broadcasting Track or the Film Track or they can complete both.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Environmental Technology - Advanced Certificate

Program Code: CSA.35467

Successful completion of the program will prepare you for employment as a hazardous materials technician, safety technician, solid waste technician, recycling technician, or as a team member in environmental consulting firms. Skills and knowledge that you should possess as a result of completing the program include: understanding of the specific safety and environmental regulations related to work environment; familiarity with computers; basic understanding of chemical terminology; ability to read technical materials and translate what is read into action; ability to write comprehensible reports; ability to keep records; ability to make routine mathematical computations; understanding of how environmental regulations are formulated, and understanding of the interrelated nature of environmental problems.

Basic Program Requirements

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	_____
CHM 105W	5	Technical Chemistry I AND	_____
CHM 106W	5	Technical Chemistry II	_____
OR			
CHM 111	(5)	General and Inorganic Chemistry I AND	_____
CHM 112	(5)	General and Inorganic Chemistry II	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
ENV 100W	3	Environmental Regulations	_____
ENV 130W	1	Pollution Prevention	_____
ENV 151W	2.7	Hazwoper Training	_____
ENV 152	1.6	Emergency Response To Industrial Spills	_____
ENV 153	1.3	Confined Space Training	_____
ENV 154	0.4	Hazardous Materials Shipping And Handling	_____
PHY 101	4	Applied Physics	_____

34 TOTAL CREDITS

1. ENV 151, ENV 152, ENV 153, and ENV 154 are presented as a series of training modules which can be taken together or separate, in any order. It is recommended however that they be taken in sequence. All components are those required and detailed through OSHA other State and Federal regulations.
2. Electives: If you are considering transferring to a university, review the Associate in Science degree requirements in the catalog and see a counselor since requirements of various transfer schools differ.
3. Note that students should enroll in CHM 111 and 112 (in place of CHM 105/106) if transferring.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Environmental Technology - Advanced Certificate**

Environmental Technology - Advanced Certificate

Total Program Cost (In District):	\$5,265.80
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Environmental Technology - Associate in Applied Science

Program Code: AAS.15466

Successful completion of the program will prepare you for employment as a hazardous materials technician, safety technician, solid waste technician, recycling technician, or as a team member in environmental consulting firms. Skills and knowledge that you should possess as a result of completing the program include: understanding of the specific safety and environmental regulations related to work environment; familiarity with computers; basic understanding of chemical terminology; ability to read technical materials and translate what is read into action; ability to write comprehensible reports; ability to keep records; ability to make routine mathematical computations; understanding of how environmental regulations are formulated, and understanding of the interrelated nature of environmental problems.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication OR	_____
COM 114W	(3)	Interpersonal Communication	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
GLG 130	4	Environmental Geology (Recommended) OR	_____
GLG 111	(4)	Physical Geology	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
MTH 208W	3	Elementary Statistics OR	_____
MTH 209W	(4)	Statistics	_____
POL ---	3/4	Any Approved American Government Requirement	_____
--- ---	3	Electives	_____
28/30		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	_____
CHM 105W	5	Technical Chemistry I	_____
CHM 106W	5	Technical Chemistry II	_____
CHM 230	4	Chemical Analysis/Instrumentation	_____
CST 133W	4	Computer Concepts & Competencies	_____
ENV 100W	3	Environmental Regulations	_____
ENV 130W	1	Pollution Prevention	_____
ENV 151W	2.7	Hazwoper Training	_____
ENV 152	1.6	Emergency Response To Industrial Spills	_____
ENV 153	1.3	Confined Space Training	_____
ENV 154	0.4	Hazardous Materials Shipping And Handling	_____
PHY 101	4	Applied Physics	_____
SCI 107	1	Introduction to Technical Programs in Science	_____
37		SUBTOTAL	

Electives

Course	Credits	Course Title	Completed
BIO 116W	2	Winter Ecology	_____
BIO 219	2	Stream Ecology: Aquatic Macroinvertebrate Research	_____
BIO 123	2	Survey Of Michigan Plant Communities	_____
BIO 203W	4	General Microbiology	_____
ENG 112	3	College Composition II	_____
ENV 310W	3	Environmental Site Assessments	_____
ENV 320W	3	Environmental Management Systems	_____

65/67 TOTAL CREDITS

1. It is highly recommended that students take SCI 107 early in their coursework.
2. ENV 151, ENV 152, ENV 153, and ENV 154 are presented as a series of training modules which can be taken together or separate, in any order. It is recommended however that they be taken in sequence. All components are those required and detailed through OSHA other State and Federal regulations.
3. Electives: If you are considering transferring to a university, review the Associate in Science degree requirements in the catalog and see a counselor since requirements of various transfer schools differ.
4. Transfer students may be advised to complete CHM 111, CHM 112, CHM 210, and CHM 210L instead of CHM 105 and CHM 106.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Associate in Applied Science

Program Code: AAS.25731

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Fire Science Technology: As a student you will embrace a wide range of knowledge leading to the control or prevention of fire and the handling of hazardous materials. This program is designed for the entering college student, the professional fire fighter and persons employed in a broad range of occupations related to fire science and safety. Technical competency prepares you for managerial and leadership positions in municipal, industrial or business entities.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology	_____
OR			
COM 112W	(3)	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
14/15	SUBTOTAL		

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	_____
FST 102W	3	Fireground Tactics	_____
FST 103W	3	Building Construction	_____
FST 105W	3	Hazardous Materials/Emergency Responder	_____
FST 107W	3	Fire Protection Systems I	_____
FST 133W	3	Computer Aided Management Emergency Operations	_____
OR			
CST 133W	(4)	Computer Concepts & Competencies	_____
FST 219	3	Fire Protection Hydraulics & Water Supply	_____
21/22	SUBTOTAL		

Electives

Course	Credits	Course Title	Completed
--- ---	18	Approved Electives	_____
--- ---	9	General Electives	_____
27	SUBTOTAL		

Approved Electives List

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	_____
COM 202W	3	Oral Communication for Managers	_____
FST 114	0.8	Firefighter Safety and Survival	_____
FST 115	1	Preparation for Initial Company Operations	_____
FST 116	0.8	Building Construction Principles	_____
FST 117	0.8	Managing Company Tactical Operations: Decision Making (MCTO:D)	_____
FST 118W	0.4	Records and Reports	_____
FST 120W	1	Fire Service Educational Methodology	_____
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	_____
FST 214	0.8	Arson Detection for the First Responder	_____
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	_____
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	_____
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	_____
FST 218	0.8	Fire Service Supervision: Team Effectiveness	_____
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	_____
FST 220	1	Strategy & Tactics for Initial Company Officer	_____
FST 240	2	Internship in Fire Science	_____
FST 301	1	Incident Command System	_____
FST 300W	3	Fire Officer III	_____
OR			
FST 302	(1)	Leadership I Strategies for Company Success AND	_____
FST 303	(1)	Leadership II Strategies for Personal Success AND	_____
FST 304	(1)	Leadership III Strategies for Supervisory Success AND	_____
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	_____
FST 306	1	Shaping the Future	_____
FST 307	1	Incident Safety Officer	_____
FST 308	1	Health and Safety Officer	_____
FST 332W	3	Advanced Fire Administration	_____
FST 334W	4	Fire Prevention Organization & Management	_____
FST 338W	3	Contemporary Issues In The Fire Service	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 265	3	International Business	_____
PHL 203W	3	Business Ethics	_____

62 TOTAL CREDITS

1. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
2. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Emergency Medical Services - Associate in Applied Science

Program Code: AAS.25732

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Emergency Medical Services: As an Emergency Medical Technician, you will provide basic emergency prehospital care to patients involved in accidents, injuries, or sudden illness. Places of employment include fire and police departments, rescue operations, ambulance services, hospitals, and industrial sites.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology	_____
OR			
COM 112W	(3)	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
14/15	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	_____
FST 102W	3	Fireground Tactics	_____
FST 103W	3	Building Construction	_____
FST 105W	3	Hazardous Materials/Emergency Responder	_____
FST 107W	3	Fire Protection Systems I	_____
FST 133W	3	Computer Aided Management Emergency Operations	_____
OR			
CST 133W	(4)	Computer Concepts & Competencies	_____
FST 219	3	Fire Protection Hydraulics & Water Supply	_____
21/22	SUBTOTAL		

Emergency Medical Services

Course	Credits	Course Title	Completed
EMS 110	4	Basic Emergency Medical Technician I	_____
EMS 111	4	Basic Emergency Medical Technician II	_____
EMS 112	2	Basic Emergency Medical Technician III	_____
EMS 113	2	Basic EMT Field Experience	_____
FST 301	1	Incident Command System	_____
--- ---	6	Approved Electives	_____
--- ---	8	General Electives	_____
27	SUBTOTAL		

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	_____
COM 202W	3	Oral Communication for Managers	_____
FST 114	0.8	Firefighter Safety and Survival	_____
FST 115	1	Preparation for Initial Company Operations	_____
FST 116	0.8	Building Construction Principles	_____
FST 117	0.8	Managing Company Tactical Operations:	_____
FST 118W	0.4	Records and Reports	_____
FST 120W	1	Fire Service Educational Methodology	_____
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	_____
FST 214	0.8	Arson Detection for the First Responder	_____
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	_____
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	_____
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	_____
FST 218	0.8	Fire Service Supervision: Team Effectiveness	_____
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	_____
FST 220	1	Strategy & Tactics for Initial Company Officer	_____
FST 240	2	Internship in Fire Science	_____
FST 301	1	Incident Command System	_____
FST 300W	3	Fire Officer III	_____
		OR	
FST 302	(1)	Leadership I Strategies for Company Success AND	_____
FST 303	(1)	Leadership II Strategies for Personal Success AND	_____
FST 304	(1)	Leadership III Strategies for Supervisory Success AND	_____
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	_____
FST 306	1	Shaping the Future	_____
FST 307	1	Incident Safety Officer	_____
FST 308	1	Health and Safety Officer	_____
FST 332W	3	Advanced Fire Administration	_____
FST 334W	4	Fire Prevention Organization & Management	_____
FST 338W	3	Contemporary Issues In The Fire Service	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 265	3	International Business	_____
PHL 203W	3	Business Ethics	_____

62 TOTAL CREDITS

1. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.

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2. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.
 3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 4. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Fire Fighter Technician - Associate in Applied Science

Program Code: AAS.25736

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Fire Fighter Technician: As a Fire Fighter, you will respond to emergency calls, control and extinguish fires, mitigate hazards, protect life and property, and maintain equipment. You will be responsible for proper use and maintenance of equipment, educating the public, responding to emergencies and developing pre-incident plans to protect the community against loss of life and property.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LWA ---	1	Any 1 Credit LWA Course AND	_____
LW ---	1	Any 1 Credit LW Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology	_____
OR			
COM 112W	(3)	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
14/15	SUBTOTAL		

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	_____
FST 102W	3	Fireground Tactics	_____
FST 103W	3	Building Construction	_____
FST 105W	3	Hazardous Materials/Emergency Responder	_____
FST 107W	3	Fire Protection Systems I	_____
FST 133W	3	Computer Aided Management Emergency Operations	_____
OR			
CST 133W	(4)	Computer Concepts & Competencies	_____
FST 219	3	Fire Protection Hydraulics & Water Supply	_____
21/22	SUBTOTAL		

Fire Fighter Technician Option

Course	Credits	Course Title	Completed
FST 111	6	Fire Fighter IA	_____
FST 112	6	Fire Fighter IB	_____
FST 211	4	Fire Fighter II	_____
FST 301	1	Incident Command System	_____
--- ---	6	Approved Electives	_____
--- ---	4	General Electives	_____
27	SUBTOTAL		

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	_____
COM 202W	3	Oral Communication for Managers	_____
FST 114	0.8	Firefighter Safety and Survival	_____
FST 115	1	Preparation for Initial Company Operations	_____
FST 116	0.8	Building Construction Principles	_____
FST 117	0.8	Managing Company Tactical Operations:	_____
FST 118W	0.4	Records and Reports	_____
FST 120W	1	Fire Service Educational Methodology	_____
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	_____
FST 214	0.8	Arson Detection for the First Responder	_____
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	_____
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	_____
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	_____
FST 218	0.8	Fire Service Supervision: Team Effectiveness	_____
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	_____
FST 220	1	Strategy & Tactics for Initial Company Officer	_____
FST 240	2	Internship in Fire Science	_____
FST 301	1	Incident Command System	_____
FST 300W	3	Fire Officer III	_____
		OR	
FST 302	(1)	Leadership I Strategies for Company Success AND	_____
FST 303	(1)	Leadership II Strategies for Personal Success AND	_____
FST 304	(1)	Leadership III Strategies for Supervisory Success AND	_____
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	_____
FST 306	1	Shaping the Future	_____
FST 307	1	Incident Safety Officer	_____
FST 308	1	Health and Safety Officer	_____
FST 332W	3	Advanced Fire Administration	_____
FST 334W	4	Fire Prevention Organization & Management	_____
FST 338W	3	Contemporary Issues In The Fire Service	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 265	3	International Business	_____
PHL 203W	3	Business Ethics	_____

62 TOTAL CREDITS

1. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
2. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.

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3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
 4. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Fire & Industrial Loss Prevention Officer - Advanced Certificate

Program Code: CTA.35732

As a student you will embrace a wide range of knowledge leading to the control or prevention of fire and the handling of hazardous materials. This program is designed for the entering college student, the professional fire fighter and persons employed in a broad range of occupations related to fire science and safety. Technical competency prepares you for managerial and leadership positions in municipal, industrial or business entities.

Fire & Industrial Loss Prevention Officer: As a loss prevention officer you will provide emergency response and security for sites including: medical, hazardous materials, fire, atmospheric sampling, and other duties. In addition, team members conduct audits on lockout tag-out operations, safe work permits, fire inspections, setting up confined space entries, establishing tie off points for fall protection, etc. You can take additional courses to obtain associate and baccalaureate degrees.

Fire & Industrial Loss Prevention Officer

Course	Credits	Course Title	Completed
CJ 182W	3	Introduction to Security	_____
COM 114W	3	Interpersonal Communication	_____
EMS 110	4	Basic Emergency Medical Technician I	_____
EMS 111	4	Basic Emergency Medical Technician II	_____
EMS 112	2	Basic Emergency Medical Technician III	_____
EMS 113	2	Basic EMT Field Experience	_____
ENG ---	3	Any Approved College Composition I Course	_____
FST 105W	3	Hazardous Materials/Emergency Responder	_____
FST 111	6	Fire Fighter IA	_____
FST 112	6	Fire Fighter IB	_____
MIT 118	2	Safety Practices and Procedures	_____

38 TOTAL CREDITS

1. * A "C" (2.0) minimum grade is required in all courses except COM and ENG.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Fire & Industrial Loss Prevention Officer- Advanced Cert**

Fire & Industrial Loss Prevention Officer- Advanced Cert

Total Program Cost (In District):	\$6,590.60
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Fire Science Technology - Fire Investigation-Prevention - Associate in Applied Science

Program Code: AAS.25734

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Fire Investigation/Prevention: As a Fire Safety Inspector, you will be involved in education, enforcement, engineering and fire investigation. Your work will involve fire safety education, inspecting and enforcing fire codes, plan review, testing of fire protection systems, maintaining exitways, inspecting flammable liquid storage, determining cause and origin of fires and preserving evidence, and testifying in court cases.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology	_____
OR			
COM 112W	(3)	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
14/15	SUBTOTAL		

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	_____
FST 102W	3	Fireground Tactics	_____
FST 103W	3	Building Construction	_____
FST 105W	3	Hazardous Materials/Emergency Responder	_____
FST 107W	3	Fire Protection Systems I	_____
FST 133W	3	Computer Aided Management Emergency Operations	_____
OR			
CST 133W	(4)	Computer Concepts & Competencies	_____
FST 219	3	Fire Protection Hydraulics & Water Supply	_____
21/22	SUBTOTAL		

Fire Investigation/Prevention Courses

Course	Credits	Course Title	Completed
FST 104W	3	Arson Awareness	_____
FST 205W	3	Hazardous Materials/Emergency Operations	_____

FST 206	4	Confined Space Management & Rescue	_____
OR			
FST 207W	(3)	Fire Protection Systems II	_____
FST 224W	3	Fire Investigation	_____
OR			
CJ 210W	(3)	Introduction to Criminal Investigation	_____
FST 230	3	Fire Safety Education	_____
FST 231	3	Fire Service Law	_____
--- ---	6	Approved Electives	_____
--- ---	5/6	General Electives	_____
29/31	SUBTOTAL		

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	_____
COM 202W	3	Oral Communication for Managers	_____
FST 114	0.8	Firefighter Safety and Survival	_____
FST 115	1	Preparation for Initial Company Operations	_____
FST 116	0.8	Building Construction Principles	_____
FST 117	0.8	Managing Company Tactical Operations:	_____
FST 118W	0.4	Records and Reports	_____
FST 120W	1	Fire Service Educational Methodology	_____
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	_____
FST 214	0.8	Arson Detection for the First Responder	_____
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	_____
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	_____
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	_____
FST 218	0.8	Fire Service Supervision: Team Effectiveness	_____
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	_____
FST 220	1	Strategy & Tactics for Initial Company Officer	_____
FST 240	2	Internship in Fire Science	_____
FST 301	1	Incident Command System	_____
FST 300W	3	Fire Officer III	_____
OR			
FST 302	(1)	Leadership I Strategies for Company Success AND	_____
FST 303	(1)	Leadership II Strategies for Personal Success AND	_____
FST 304	(1)	Leadership III Strategies for Supervisory Success AND	_____
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	_____
FST 306	1	Shaping the Future	_____
FST 307	1	Incident Safety Officer	_____
FST 308	1	Health and Safety Officer	_____
FST 332W	3	Advanced Fire Administration	_____
FST 334W	4	Fire Prevention Organization & Management	_____
FST 338W	3	Contemporary Issues In The Fire Service	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 265	3	International Business	_____
PHL 203W	3	Business Ethics	_____

62 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
2. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Industrial-Commercial Security and Safety - Associate in Applied Science

Program Code: AAS.25733

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Industrial/Commercial Security and Safety: You will perform inspections of industrial and commercial buildings to detect fire and safety hazards and make recommendations for improvements for loss prevention management. Your duties will include examining interiors and exteriors of industrial settings for violation of federal, state and local requirements.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology	_____
OR			
COM 112W	(3)	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
14/15	SUBTOTAL		

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	_____
FST 102W	3	Fireground Tactics	_____
FST 103W	3	Building Construction	_____
FST 105W	3	Hazardous Materials/Emergency Responder	_____
FST 107W	3	Fire Protection Systems I	_____
FST 133W	3	Computer Aided Management Emergency Operations	_____
OR			
CST 133W	(4)	Computer Concepts & Competencies	_____
FST 219	3	Fire Protection Hydraulics & Water Supply	_____
21/22	SUBTOTAL		

Industrial/Commercial Security and Safety Option

Course	Credits	Course Title	Completed
CJ 182W	3	Introduction to Security	_____
FST 205W	3	Hazardous Materials/Emergency Operations	_____

FST 206	4	Confined Space Management & Rescue	_____
OR			
FST 207W	(3)	Fire Protection Systems II	_____
FST 231	3	Fire Service Law	_____
MIT 118	2	Safety Practices and Procedures	_____
--- ---	6	Approved Electives	_____
--- ---	6/7	General Electives	_____
26/28	SUBTOTAL		

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	_____
COM 202W	3	Oral Communication for Managers	_____
FST 114	0.8	Firefighter Safety and Survival	_____
FST 115	1	Preparation for Initial Company Operations	_____
FST 116	0.8	Building Construction Principles	_____
FST 117	0.8	Managing Company Tactical Operations:	_____
FST 118W	0.4	Records and Reports	_____
FST 120W	1	Fire Service Educational Methodology	_____
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	_____
FST 214	0.8	Arson Detection for the First Responder	_____
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	_____
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	_____
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	_____
FST 218	0.8	Fire Service Supervision: Team Effectiveness	_____
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	_____
FST 220	1	Strategy & Tactics for Initial Company Officer	_____
FST 240	2	Internship in Fire Science	_____
FST 301	1	Incident Command System	_____
FST 300W	3	Fire Officer III	_____
OR			
FST 302	(1)	Leadership I Strategies for Company Success AND	_____
FST 303	(1)	Leadership II Strategies for Personal Success AND	_____
FST 304	(1)	Leadership III Strategies for Supervisory Success AND	_____
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	_____
FST 306	1	Shaping the Future	_____
FST 307	1	Incident Safety Officer	_____
FST 308	1	Health and Safety Officer	_____
FST 332W	3	Advanced Fire Administration	_____
FST 334W	4	Fire Prevention Organization & Management	_____
FST 338W	3	Contemporary Issues In The Fire Service	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 265	3	International Business	_____
PHL 203W	3	Business Ethics	_____

62 TOTAL CREDITS

1. A "C" (2.0) minimum grade is required in Core and Approved Elective courses for degree.
2. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
3. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.

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4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 5. Delta College reserves the right to modify graduation requirements.

Fire Science Technology - Leadership and Training - Associate in Applied Science

Program Code: AAS.25735

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. Students graduating may enroll in the 3+1 BBA Fire Administration Degree Program. Students may choose two of the options, which will appear on their degree. Students wishing more could complete a second degree with minimum of 24 additional credits.

Leadership & Training: You will provide the command and educational functions for public or private entities. Responsibilities include all major functions at emergency scenes, training of personnel, safety and overall management of resources.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology	_____
OR			
COM 112W	(3)	Fundamentals of Oral Communication	_____
OR			
COM 114W	(3)	Interpersonal Communication	_____
14/15	SUBTOTAL		

Fire Science Core Courses

Course	Credits	Course Title	Completed
FST 101W	3	Introduction to the Fire Service	_____
FST 102W	3	Fireground Tactics	_____
FST 103W	3	Building Construction	_____
FST 105W	3	Hazardous Materials/Emergency Responder	_____
FST 107W	3	Fire Protection Systems I	_____
FST 133W	3	Computer Aided Management Emergency Operations	_____
OR			
CST 133W	(4)	Computer Concepts & Competencies	_____
FST 219	3	Fire Protection Hydraulics & Water Supply	_____
21/22	SUBTOTAL		

Leadership & Training

Course	Credits	Course Title	Completed
FST 104W	3	Arson Awareness	_____
OR			
FST 230	(3)	Fire Safety Education	_____
FST 203W	3	Fireground Management	_____
OR			

MGT 245	(3)	Principles of Management	_____
FST 204	3	Fire Service Instructional Methodology	_____
FST 206	4	Confined Space Management & Rescue	_____
		OR	
FST 280W	(4)	Company Officer I/II	_____
FST 231	3	Fire Service Law	_____
--- ---	6	Approved Electives	_____
--- ---	5/6	General Electives	_____
27/28	SUBTOTAL		

Approved Electives

Course	Credits	Course Title	Completed
CJ 187W	3	Current Issues in Security	_____
COM 202W	3	Oral Communication for Managers	_____
FST 114	0.8	Firefighter Safety and Survival	_____
FST 115	1	Preparation for Initial Company Operations	_____
FST 116	0.8	Building Construction Principles	_____
FST 117	0.8	Managing Company Tactical Operations:	_____
FST 118W	0.4	Records and Reports	_____
FST 120W	1	Fire Service Educational Methodology	_____
FST 213	0.8	Managing Company Tactical Operations: Tactics (MCTO:T)	_____
FST 214	0.8	Arson Detection for the First Responder	_____
FST 215	2	Introduction to Fire Inspection Principles and Practices (IFIPP)	_____
FST 216	0.8	Building Construction Non-Combustible/Fire Resistive	_____
FST 217	0.8	Fire Service Supervision: Personal Effectiveness	_____
FST 218	0.8	Fire Service Supervision: Team Effectiveness	_____
FST 219L	1	Fire Protection Hydraulics & Water Supply Lab	_____
FST 220	1	Strategy & Tactics for Initial Company Officer	_____
FST 240	2	Internship in Fire Science	_____
FST 301	1	Incident Command System	_____
FST 300W	3	Fire Officer III	_____
		OR	
FST 302	(1)	Leadership I Strategies for Company Success AND	_____
FST 303	(1)	Leadership II Strategies for Personal Success AND	_____
FST 304	(1)	Leadership III Strategies for Supervisory Success AND	_____
FST 305	(1)	Firefighter Health and Safety: Program Implementation & Management	_____
FST 306	1	Shaping the Future	_____
FST 307	1	Incident Safety Officer	_____
FST 308	1	Health and Safety Officer	_____
FST 332W	3	Advanced Fire Administration	_____
FST 334W	4	Fire Prevention Organization & Management	_____
FST 338W	3	Contemporary Issues In The Fire Service	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 265	3	International Business	_____
PHL 203W	3	Business Ethics	_____

62 TOTAL CREDITS

1. A "C" (2.0) minimum grade is required in Core and Approved Elective courses for degree.
2. Recommended Life Long Wellness (LWA) classes are LWA 111, 172, 173 or 174.
3. Approved Fire Science Technology (FST) electives can be any combination of required (non-elective) courses in the other options and those listed as approved electives.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Global Peace Studies - Certificate of Achievement

Program Code: CSZ.35400

This certificate begins to prepare students to understand the complexity of global issues and become agents of positive change. Students will examine factors that influence peace and conflict, ecological sustainability and social and economic justice in our world. Students will broaden their knowledge base but also develop cross-cultural understanding and skills in community building, conflict mediation and solution creation that can be applied at the individual, local, and global levels.

Core Courses

Course	Credits	Course Title	Completed
IHU 120W	4	Introduction to Global Peace Studies OR	_____
SSI 120W	(4)	Introduction to Global Peace Studies	_____
IHU 240W	4	Leadership for Positive Change OR	_____
SSI 240W	(4)	Leadership for Positive Change	_____
POL 225W	3	World Politics	_____

11 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Global Peace Studies - Associate in Arts

Program Code: AA.40000

This degree prepares students to understand the complexity of global issues and become agents of positive change. Students will examine factors that influence peace and conflict, ecological sustainability and social and economic justice in our world. Students will broaden their knowledge base but also develop cross-cultural understanding and skills in community building, conflict mediation and solution creation that can be applied at the individual, local, and global levels. Students must take 8-12 hours within their selected Track.

Track 1: International Business (2+2 Transfer) focuses on the global business environment, including trade, finance, law, marketing, management, culture, and comparative economic systems.

Track 2: Global Environment (2+2 Transfer) focuses on factors influencing environmental transformation and exploitation, and explores solutions to environmental problems.

Track 3: Human Services/Social Justice (2+2 Transfer) focuses on obtaining the knowledge and skill to identify and meet human needs in a variety of social and cultural settings.

Track 4: International Relations (2+2 Transfer) focuses on exploring the sources of international conflict and the necessary conditions for enhancing peace and cooperation among nations.

Curriculum for the Associate in Arts degree is recommended for this program. Please check for transferability with your intended institution or see Advising and Counseling.

General Education Core Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
--- ---	8	Natural Science Electives	_____
--- ---	7	General Electives	_____
23	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
IHU 120W	4	Introduction to Global Peace Studies OR	_____
SSI 120W	(4)	Introduction to Global Peace Studies	_____
IHU 240W	4	Leadership for Positive Change OR	_____
SSI 240W	(4)	Leadership for Positive Change	_____
POL 225W	3	World Politics	_____
--- ---	8	Any Foreign Language I and II	_____
19	SUBTOTAL		

The following courses are STRONGLY recommended in fulfilling the Global Peace Studies AA degree General Education requirements. Many of the courses also fulfill Global Peace Studies track requirements.

Recommended Electives

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	_____
COM 112	3	Any Approved Fundamentals of Oral Communication	_____
ECN 221W	4	Principles of Macroeconomics	_____
PHL 213W	3	Introduction to Ethics	_____
PSY 211W	4	General Psychology OR	_____
SOC 211W	(3)	Principles of Sociology	_____
--- ---	3/4	Courses in Art, Literature, or Music	_____

In addition to the core courses, an additional 8-12 credits from the Track of your choice are required for the Associate Degree. Consult with Academic Advising for specific 2+2 or 3+1 Transfer requirements.

Track 1: International Business (2+2 or 3+1 Transfer) See note below.

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Financial Accounting	_____
ACC 212	4	Principles of Managerial Accounting	_____
COM 112	3	Any Approved Fundamentals of Oral Communication	_____
CST 133W	4	Computer Concepts & Competencies	_____
ECN 221W	4	Principles of Macroeconomics	_____
ECN 222W	4	Principles of Microeconomics	_____
MGT 243	3	Principles of Marketing	_____
MGT 245	3	Principles of Management	_____
MGT 251W	3	Business Law I	_____
MGT 265	3	International Business	_____
MTH 208W	3	Elementary Statistics	_____
MTH 120	3	Finite Mathematics OR	_____
MTH 122W	(4)	College Algebra	_____
PHL 203W	3	Business Ethics OR	_____
PHL 213W	(3)	Introduction to Ethics	_____
--- ---	8	Any Foreign Language III & IV	_____
8/12		SUBTOTAL	

Track 2: Global Environment (2+2 Transfer) Taken in at least two subject areas. Include at least one lab course.

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	_____
BIO 119	1	Stream Ecology	_____
ENV 105	3	Introduction To Environmental Health & Safety	_____
ENV 130W	1	Pollution Prevention	_____
GEO 111	4	Physical Geography	_____
GEO 113W	4	World Cultural Geography	_____
GEO 222	3	Geography of Asia OR	_____
GEO 223	(3)	Geography of Europe OR	_____
GEO 226	(3)	Geography of United States and Canada	_____
8/12		SUBTOTAL	

Track 3: Human Services/Social Justice (2+2 Transfer)

Course	Credits	Course Title	Completed
ENG 269W	3	Native North American Literature	_____
ENG 278W	3	Modern African-American Literature	_____
ENG 285W	3	Women in Literature	_____
HIS 215W	3	Recent African-American History: Since 1850	_____
HIS 217W	3	Hispanics in the U.S.	_____
HIS 225W	3	History of Women and Gender in the United States	_____
IHU 202	3	Women's Studies	_____
IHU 232W	3	Exploring Human Nature OR	_____
SSI 232W	(3)	Exploring Human Nature	_____
IHU 234W	4	World Religions OR	_____
SSI 234W	(4)	World Religions	_____
IHU 280W	3	Exploring Diversity OR	_____
SSI 288W	(3)	Exploring Diversity OR	_____
IHU 281W	(4)	Exploring Diversity With Project OR	_____
SSI 289W	(4)	Exploring Diversity With Project	_____
POL 220W	3	Minority Group Politics	_____
SOC 215W	3	Sociology of Minority Groups	_____
SOC 300W	3	Interviewing, Counseling, and the Helping Relationship OR	_____
PSY 300W	(3)	interviewing, Counseling, and the Helping Relationship	_____
SPA 113W	2	Introduction to Hispanic Cultures	_____

8/12 SUBTOTAL

Track 4: International Relations

Course	Credits	Course Title	Completed
ENG 262W	3	Holocaust History and Literature	_____
GEO 113W	4	World Cultural Geography	_____
GEO 255W	4	Third World Development OR	_____
SOC 265W	(4)	Third World Development	_____
HIS 112W	4	A Survey of Later Western Civilization	_____
IHU 234W	4	World Religions OR	_____
SSI 234W	(4)	World Religions	_____
POL 221W	3	Comparative Government	_____
POL 222	3	Politics of the Middle East	_____
POL 229W	3	Political Terrorism	_____
SOC 231W	3	Cultural Anthropology	_____

8/12 SUBTOTAL

62 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the degree.
2. Track 2 courses meet Natural Science requirement in General Education Core Courses.
3. See Section IV, Academic Policies, Graduation Requirements, Group Requirements for approved courses. You may qualify for MTA or MACRAO. Apply online or at the Registrar's Office.
4. To complete the "Group Requirement" graduation requirement in Humanities take the IHU version. See Section IV, Academic Policies, Graduation

Requirements, Group Requirements for approved courses.

5. Those students who use Track 2 to complete Natural Science electives will need to complete 15 hours of electives. BIO 110 is required as one of your electives for Track 2.
6. Students taking all Tracks will need to complete MTH 118 or higher (with the exception of MTH 119) to meet MTA and AA requirements.
7. 3+1 Transfer may require Spanish as the foreign language requirement. One full year (8 credits) are required of a foreign language for the 2+2 transfer, and two full years (16 credits) are required for the 3+1 transfer. Check with a counselor for your program.
8. All of the courses in Track 1 must be taken to qualify for the 3+1 transfer.
9. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
10. Delta College reserves the right to modify graduation requirements.
11. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Group Fitness Instructor - Advanced Certificate

Program Code: CSA.35740

Today's fitness industry is rapidly growing. Being a group exercise instructor is no longer about teaching aerobics. The modern group fitness instructor may be expected to teach a variety of specialties such as step aerobics, indoor cycling, yoga, Pilates, cardio kickboxing, weight training and conditioning, stability ball, and senior or child fitness classes. This program will offer the education and certification to teach safe and effective exercise to a wide variety of populations. An understanding of human anatomy and physiology will also be included. Upon completion of this program, you will be eligible to sit for the American Council on Exercise (ACE) certification exam.

Basic Program Requirements

Course	Credits	Course Title	Completed
BIO 101W	4	Introduction to Anatomy and Physiology OR	_____
BIO 152W	(4)	Human Anatomy & Physiology I OR	_____
BIO 140W	(5)	Essentials Of Human Anatomy & Physiology	_____
COM 112	3	Any Approved Fundamentals of Oral Communication	_____
HSC 140	2	Basic Medical Emergencies	_____
		OR	
LWT 165	(1)	HeartSaver First Aid with CPR AND	_____
LWT 170	(1)	Basic Life Support for the Health Care Provider	_____
LWA 151	1	Kick Boxing	_____
LWA 152	1.5	Astanga Yoga	_____
LWA 153	1	Dance Aerobics OR	_____
LWA 157	(1)	Step Aerobics	_____
LWA 156W	1	Stability Ball Training	_____
LWA 158	1	Pilates	_____
LW 220W	1	Lifelong Wellness OR	_____
LW 221W	(2)	Fitness and Wellness	_____
LWT 210	3	Nutrition: The Science of Optimal Living OR	_____
LW 222	(3)	The Science of Nutrition and Exercise	_____
LWT 230	3	Theory of Strength and Conditioning	_____
LWT 242	4	Group Fitness Instructor	_____

25.5/27.5 TOTAL CREDITS REQUIRED FOR CERTIFICATE

1. Current CPR certification is required for admission to the program and must be maintained throughout the program.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Group Fitness Instructor - Advanced Certificate**

Group Fitness Instructor - Advanced Certificate

Total Program Cost (In District):	\$4,182.50
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Health Fitness Specialist - Associate in Applied Science

Program Code: AAS.25710

This degree can stand alone or can lead to a bachelor's degree in Health Fitness, Exercise Physiology, or related field. The program prepares students to sit for two of the most nationally recognized fitness certification exams: The National Strength and Conditioning Association - Certified Personal Trainer Exam, and the American College of Sports Medicine - Certified Personal Trainer or Health Fitness Specialist Exam. This program will give the health fitness student the fundamental knowledge of exercise physiology; human anatomy and physiology; biomechanics; prevention and treatment of exercise-related injuries; CPR, First Aid, and AED readiness skills; health appraisals and assessments; application of fitness principles and strength training; applicable knowledge of nutrition, weight management, stress management, and self-employment; skills in health fitness assessment, as well as designing and leading endurance and strength programs for diverse populations. In addition, upon completion of this associate degree, the health fitness specialist will also have attained the Delta College Personal Trainer Certificate.

General Education Courses

Course	Credits	Course Title	Completed
BIO 111W	4	Principles of Biology	_____
CHM 101W	5	General Chemistry I	_____
COM 112W	3	Fundamentals of Oral Communication	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 211W	4	General Psychology	_____
--- ---	0/1	Any Social Science Elective	_____
--- ---	5	Any Humanities Elective (with at least one department other than COM)	_____

30/32 SUBTOTAL

Basic Program Requirements

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I	_____
BIO 153W	4	Human Anatomy & Physiology II	_____
LWT 165	1	HeartSaver First Aid with CPR AND	_____
LWT 170	1	BLS for the Health Care Provider	_____
OR			
HSC 140	(2)	Basic Medical Emergencies	_____
LWT 214	2	Techniques and Applications of Health Fitness Equipment	_____
LWT 210	3	Nutrition: The Science of Optimal Living OR	_____
LW 222	(3)	The Science of Nutrition and Exercise	_____
LWT 230	3	Theory of Strength and Conditioning	_____
LWT 240	4	Health Fitness Instructor/Personal Trainer	_____
LWT 242	4	Group Fitness Instructor	_____
LWT 251	4	Exercise Physiology	_____
LWT 255	3	Health Fitness Management and Promotion	_____
LWT 260	5	Health Fitness Experience	_____
LWA ---	1	Lifelong Wellness Elective from Category A:	_____
LWA ---	1/1.5	Lifelong Wellness Elective from Category B:	_____

40/40.5 SUBTOTAL

LWA Electives - Category A (Choose from this list for Basic Program Requirements)

Course	Credits	Course Title	Completed
LWA 101	1	Fitness for Life	_____
LWA 106	1	Athletic Conditioning	_____
LWA 108	1	Weight Training	_____
LWA 111	1	Circuit Training	_____

LWA Electives - Category B (Choose from this list for Basic Program Requirements)

Course	Credits	Course Title	Completed
LWA 151	1	Kick Boxing	_____
LWA 152	1.5	Astanga Yoga	_____
LWA 153	1	Dance Aerobics	_____
LWA 154W	1	BOSU Ball Training	_____
LWA 156W	1	Stability Ball Training	_____
LWA 157	1	Step Aerobics	_____
LWA 158	1	Pilates	_____

70/72.5 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. In addition to tuition, fees, and textbook costs, you may have to purchase special shoes, shirts, nametags, and provide transportation to all internship sites.
2. Current CPR certification is required for admission to LWT 260. Current CPR certification must be maintained throughout the program.
3. You need to be aware that internship assignments may be outside the Tri-county area.
4. See College catalog for graduation and MTA requirements.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Health Fitness Specialist - General Management Dual Associate

Program Code: DE.30710

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
15/17		SUBTOTAL	

Electives (Choose 7/9 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/9		SUBTOTAL	
24		TOTAL CREDITS REQUIRED	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.

-
3. Credits required for a dual degree vary according to the chosen curricula.
 4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
 5. Delta College reserves the right to modify graduation requirements.

Health Foundations - Advanced Certificate

Program Code: CHA.20530

Advanced Certificate: Upon completion of the Health Foundation Certificate you will have established a broad knowledge base that can lead to potential healthcare careers. The certificate allows an individual to complete coursework that builds or supports other advanced certificate or degree options in career fields like dental hygiene, dental assisting, diagnostic medical sonography, nursing (registered nurse and practical nurse), surgical technology, physical therapy assistant, respiratory therapy or radiography. The individual will also have the ability to take the State examination and then meet the requirements to become a certified nursing assistant which can lead to employment in acute or long-term care areas.

Core Courses

Course	Credits	Course Title	Completed
ENG 111	3	College Composition I	_____
HSC 105	2	Medical Terminology	_____
CNA 100W	3.7	Certified Nursing Assistant Training	_____
CNA 100LW	1.3	Certified Nursing Assistant Lab	_____
10	SUBTOTAL		

Certificate requires that a minimum of 14 credits from the following list be completed.

Electives

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	_____
OR			
BIO 152W	(4)	Human Anatomy & Physiology I AND	_____
BIO 153W	(4)	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
ENG 112	3	College Composition II OR	_____
ENG 113	(3)	Technical Communication	_____
LW 222	3	The Science of Nutrition and Exercise	_____
MTH 117	2	Math for Allied Health	_____
PHL 215W	3	Health Care Ethics	_____
PSY 101W	3	Applied Psychology OR	_____
PSY 211W	(4)	General Psychology	_____
SOC 211W	3	Principles of Sociology	_____
14/26	SUBTOTAL		
24/36	TOTAL CREDITS REQUIRED		

1. The student should meet with an Academic Advisor or Counselor to align the health foundation certificate with another program of study, if that is the student's goal, to assure that they are meeting program specific requirements.
2. All courses will require a "C" minimum grade to earn the advanced health foundation certificate. However, program specific requirements in related degrees may require higher grade requirements in order to gain admission into the specific program.
3. Some courses have prerequisite courses or reading, writing and math levels that must be attained through assessment testing before enrollment in the course.
4. The CNA course requires completion of a criminal background check that must be approved before entering the clinical agency.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Health Foundations Advanced Certificate**

Health Foundations Advanced Certificate

Total Program Cost (In District):	\$3,728.80
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Heavy Duty Diesel Service Technology - Associate in Applied

Program Code: AAS.15848

Completing the Heavy Duty Diesel (HDD) Service Technology Associate Degree prepares you for an entry-level career as a heavy duty diesel service technician. The program includes fundamentals of the operation and preventive maintenance of heavy duty diesel systems and hands-on training that covers a variety of diesel powered vehicles, engines, and power systems. HDD service technician responsibilities may include the maintenance and repair of heavy duty diesel vehicle brakes; drivetrains; suspension and steering; hydraulics; heating, ventilation and air conditioning; electrical/electronic systems; and engines.

RECOMMENDED SEMESTER PATH:

Semester 1

Course	Credits	Course Title	Completed
MIT 118	2	Safety Practices and Procedures	_____
HDD 106	4	Heavy Duty Diesel Electrical/Electronic Systems Level I	_____
HDD 108	4	Heavy Duty Diesel Preventive Maintenance and Inspection	_____
HDD 112	4	Heavy Duty Diesel Engines Level I	_____
LW 223W	2	Wellness in Technical Trades	_____
16	SUBTOTAL		

Semester 2

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
HDD 151	4	Heavy Duty Diesel Engines Level II	_____
HDD 156	4	Heavy Duty Diesel Electrical/Electronic Systems Level II	_____
HDD 204	4	Heavy Duty Diesel Brakes	_____
MGT 110	3	Business Mathematics	_____
18	SUBTOTAL		

Semester 3

Course	Credits	Course Title	Completed
ENG 113	3	Technical Communication	_____
HDD 202	4	Heavy Duty Diesel Engines Level III	_____
HDD 205	4	Heavy Duty Diesel Suspension and Steering	_____
HDD 206	4	Heavy Duty Diesel Electrical/Electronic Systems Level III	_____
15	SUBTOTAL		

Semester 4

Course	Credits	Course Title	Completed
HDD 203W	4	Heavy Duty Diesel Drivetrains	_____
HDD 207	4	Heavy Duty Diesel Heating, Ventilation, & Air Conditioning	_____
HDD 209W	3	Heavy Duty Diesel Hydraulics	_____
HDD 210	1	Heavy Duty Diesel Capstone: ASE HD Diesel Test	_____
POL ---	3/4	Any Approved Foundational Civics Course	_____
15/16	SUBTOTAL		

64/65 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. A grade of "C" (2.0) or higher is required for all HDD courses for the degree.
2. HDD 202 and HDD 206 are Key courses and must be completed within 5 years of completing degree. Failure to complete within the stated time frame will require you to repeat the course. See graduation requirements.
3. Any college level Composition II course with a minimum grade of "C" may be substituted for ENG 113. See a counselor or advisor in D102, the Counseling/Advising Office.
4. MTH 118 (or higher) with a minimum grade of "C" may be substituted for MGT 110. See a counselor or advisor in D102, the Counseling/Advising Office.
5. HDD 210 course fee for testing will be at the current ASE rate and is the responsibility of the student.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.

HVACR Air Conditioning - Advanced Certificate

Program Code: CTA.35891

This program will provide education and skill training for service technicians in the Air Conditioning Service Industry. Technicians on the job are needed to test, troubleshoot, repair, install, and sell the wide range of mechanical and electrical appliances and components in this field.

Core Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	_____
ENG ---	3	Any Approved College Composition I Course	_____
HVAC 121	3	Fundamentals of Refrigeration & A/C	_____
HVAC 122	3	Refrigeration & A/C Service I	_____
HVAC 124	3	Refrigeration & A/C Service II	_____
HVAC 126	3	Refrigerant Piping & Practices	_____
HVAC 140	3	Applied Electricity I	_____
HVAC 142	3	Sheetmetal Layout I	_____
HVAC 146	3	Residential Air Conditioning Systems	_____
HVAC 150	1	Refrigerant Certification	_____
HVAC 210W	3	Commercial Air Conditioning	_____
HVAC 230	3	Design of HVAC Systems	_____

32 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in HVAC 150, HVAC 210W and HVAC 230 which are also key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
2. Prior to enrollment, you must have an ASSET score of 38 (Elementary Algebra), 31 (Intermediate Algebra), or 28 (College Algebra) or an ACT score of 19 in Math, or COMPASS score of 41 (Algebra). You are advised to take MTH 097 if your algebra skills are weak.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **HVACR Air Conditioning - Advanced Certificate**

HVACR Air Conditioning - Advanced Certificate

Total Program Cost (In District):	\$5,270.80
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

HVACR Commercial Refrigeration - Advanced Certificate

Program Code: CTA.35890

This program will provide education and skill training for service technicians in the Refrigeration Service Industry. Technicians on the job are needed to test, troubleshoot, repair, install, and sell the wide range of mechanical and electrical appliances and components in this field.

Core Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	_____
ENG ---	3	Any Approved College Composition I Course	_____
HVAC 121	3	Fundamentals of Refrigeration & A/C	_____
HVAC 122	3	Refrigeration & A/C Service I	_____
HVAC 123	3	Commercial Refrigeration Flow Controls I	_____
HVAC 124	3	Refrigeration & A/C Service II	_____
HVAC 126	3	Refrigerant Piping & Practices	_____
HVAC 140	3	Applied Electricity I	_____
HVAC 150	1	Refrigerant Certification	_____
HVAC 225	3	Commercial Refrigeration II	_____
HVAC 230	3	Design of HVAC Systems	_____
HVAC 233W	5	Commercial Refrigeration III	_____

34 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in HVAC 150, HVAC 230 and HVAC 233W which are also key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
2. Prior to enrollment, you must have an ASSET score of 38 (Elementary Algebra), 31 (Intermediate Algebra), or 28 (College Algebra) or an ACT score of 19 in Math, or COMPASS score of 41 (Algebra). You are advised to take MTH 097 if your algebra skills are weak.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **HVACR Commercial Refrigeration - Advanced Certificate**

HVACR Commercial Refrigeration - Advanced Certificate

Total Program Cost (In District):	\$5,578.20
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

HVACR Heating - Advanced Certificate

Program Code: CTA.35892

This program will provide education and skill training for service technicians in the Heating Service Industry. Technicians on the job are needed to test, troubleshoot, repair, install, and sell the wide range of mechanical and electrical appliances and components in this field.

Core Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	_____
ENG ---	3	Any Approved College Composition I Course	_____
HVAC 135	3	Heating System Fundamentals	_____
HVAC 136	3	Heating Service Fundamentals	_____
HVAC 140	3	Applied Electricity I	_____
HVAC 142	3	Sheetmetal Layout I	_____
HVAC 230	3	Design of HVAC Systems	_____
HVAC 235	3	Hydronic and Oil Heating Fundamentals	_____

22 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in HVAC 136, HVAC 230, and HVAC 235, which are also key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
2. Prior to enrollment, you must have an ASSET score of 38 (Elementary Algebra), 31 (Intermediate Algebra), or 28 (College Algebra) or an ACT score of 19 in Math, or COMPASS score of 41 (Algebra). You are advised to take MTH 097 if your algebra skills are weak.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **HVACR Heating - Advanced Certificate**

HVACR Heating - Advanced Certificate

Total Program Cost (In District):	\$3,733.80
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

HVACR Service Technology - Associate in Applied Science

Program Code: AAS.15890

This program will provide you education and skill training for service technicians in the Refrigeration, Heating, and Air Conditioning Service Industry. Technicians on the job are needed to test, troubleshoot, repair, install, and sell the wide range of mechanical and electrical appliances and components in this field.

General Education Courses

Course	Credits	Course Title	Completed
COM 112	3	Any Approved Fundamentals of Oral Communication	_____
CST 133W	4	Computer Concepts & Competencies	_____
OR			
CST 134	(3)	Micro Computers in Business Using MS Office	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
LW ---	1	Any Lifelong Wellness Course	_____
LWA ---	1	Any 1 Credit LWA Course	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
21/23	SUBTOTAL		

Technical Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	_____
HVAC 121	3	Fundamentals of Refrigeration & A/C	_____
HVAC 122	3	Refrigeration & A/C Service I	_____
HVAC 123	3	Commercial Refrigeration Flow Controls I	_____
HVAC 124	3	Refrigeration & A/C Service II	_____
HVAC 126	3	Refrigerant Piping & Practices	_____
HVAC 135	3	Heating System Fundamentals	_____
HVAC 136	3	Heating Service Fundamentals	_____
HVAC 140	3	Applied Electricity I	_____
HVAC 142	3	Sheetmetal Layout I	_____
HVAC 146	3	Residential Air Conditioning Systems	_____
HVAC 150	1	Refrigerant Certification	_____
HVAC 210W	3	Commercial Air Conditioning	_____
HVAC 225	3	Commercial Refrigeration II	_____
HVAC 230	3	Design of HVAC Systems	_____
HVAC 235	3	Hydronic and Oil Heating Fundamentals	_____
44	SUBTOTAL		

65/67 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in HVAC 136, HVAC 150, HVAC 210W, HVAC 230, and HVAC 235, which are also key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
2. Prior to enrollment, you must have an ASSET score of 38 (Elementary Algebra), 31 (Intermediate Algebra), or 28 (College Algebra) or an ACT score of 19 in Math, or COMPASS score of 41 (Algebra). You are advised to take MTH 097 if your algebra skills are weak.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Industrial Technology Education - Associate in Applied Science

Program Code: AAS.15710

The industrial technology major for teachers includes coursework to develop technical competence in the technical core of Manufacturing, Construction, Communications, and Power/Energy. It also includes a professional core of coursework directly related to teaching technology to children and youth in public schools of Michigan.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
LW 223W	2	Wellness in Technical Trades	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 211W	4	General Psychology	_____
19/20	SUBTOTAL		

Basic Program Requirements

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	_____
ARC 105	4	Architectural Drafting I OR	_____
DRF 104	(4)	Basic Mechanical Design OR	_____
DRF 105	(3)	Beginning Mechanical Drafting	_____
AUT 100	3	Introduction to Automotive Service	_____
CAD 114	3	Introduction to CAD OR	_____
ARC 114	(3)	Architectural AutoCAD 2D Basics	_____
ED 200BW	3	Exploratory Teaching (Secondary)	_____
EET 235	3	Electrical Circuits	_____
ITE 330	3	Careers and Technology for Children	_____
ITE 340	3	Teaching Methods and Strategies in Industrial/Technical Education	_____
ITE 350	3	Curriculum Development and Facility Planning in Industrial/Technical Education	_____
MIT 111W	3	Manufacturing Processes	_____
MS 181W	4	Machine Tools I	_____
RC 104	3	Construction Lab	_____
RC 205	5	Cabinet Making and Millwork	_____

Complete 3 credits from the following list

Course	Credits	Course Title	Completed
WELD 101	1	Exploratory Oxy-Fuel Welding and Cutting	_____
WELD 102	1	Exploratory Shielded Metal Arc Welding	_____
WELD 106	1	Exploratory Gas Tungsten Arc Welding	_____
WELD 108	1	Exploratory Gas Metal Arc Welding	_____

45/46 SUBTOTAL

64/66 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. This program requires transfer to SVSU.
2. Potential students need to meet with the Counseling office for advisement prior to beginning program.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

International Studies (with World Language Skills) - Advanced Certificate

Program Code: CSA.35493

While pursuing your individual program of studies as a Delta College student, you can earn an "add-on" Certificate in International Studies by successfully completing applicable courses from designated sets (A, B, C) of present Delta courses (or their equivalents). This program is designed to: 1) provide students a wider and deeper range of international awareness and knowledge; 2) promote an interest in other cultures and places; 3) promote an interest in foreign languages; 4) lay the groundwork for future international learning options for you as a Delta graduate, and 5) enhance employment opportunities. The Certificate in International Studies is an "add-on" to the credential for your present program of studies. Courses/credits you already have may be applicable toward the certificate requirements.

Core Courses

Course	Credits	Course Title	Completed
GEO 113	4	World Cultural Geography	_____
HIS 112W	4	A Survey of Later Western Civilization	_____
---	6	Choose From Set B Courses	_____
---	8	Foreign Language Set A Courses	_____
---	2/3	Choose From Set B or C	_____
24/25	TOTAL CREDITS		

SET A: Foreign Languages

Course	Credits	Course Title	Completed
---	4	French (FR)	_____
---	4	German (GE)	_____
---	2/4	Spanish (SPA)	_____

SET B: Broad scope Global/International courses

Course	Credits	Course Title	Completed
ECN 268W	4	International Studies in Economics	_____
GEO 111	4	Physical Geography	_____
GEO 255	4	Third World Development	_____
OR			
SOC 265	(4)	Third World Development	_____
HIS 111W	4	A Survey of Early Western Civilization	_____
MGT 265	3	International Business	_____
POL 221W	3	Comparative Government	_____
POL 225W	3	World Politics	_____
SOC 231	3	Cultural Anthropology	_____

Set C: Specialized Global/International courses

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	_____
BIO 230	4	Physical Anthropology And Archeology	_____
OR			
SOC 230	(4)	Physical Anthropology and Archeology	_____

BIO 268	4	International Studies In Biology	_____
ECN 268W	1-4	International Studies in Economics	_____
GEO 222	3	Geography Of Asia	_____
GEO 223	3	Geography Of Europe	_____
GEO 226	3	Geography Of United States And Canada	_____
GEO 260	3	Geography Of The Pacific Islands	_____
GEO 262	1	The Geography Of The Canadian Shield	_____
GEO 268	4	International Studies In Geography	_____
GLG 268	4	International Studies In Geology	_____
HIS 214W	3	Early African-American History Pre-European Africa to 1877	_____
HIS 217	3	Hispanics in the U.S.	_____
HIS 268W	1-4	International Studies in History	_____
IHU 161	1	Projects in Cross-Cultural Learning	_____
		OR	
SOC 161	(1)	Projects in Cross-Cultural Learning	_____
IHU 162	2	Projects in Cross-Cultural Learning	_____
		OR	
SOC 162	(2)	Projects in Cross-Cultural Learning	_____
ENG 241W	3	Introduction to Mythology	_____
ENG 242W	3	Introduction to British Literature	_____
ENG 245W	3	Biblical Literature: Old Testament	_____
ENG 246W	3	Biblical Literature: New Testament	_____
ENG 268	1-4	International Studies in Literature	_____
POL 222	3	Politics of the Middle East	_____
POL 229W	3	Political Terrorism	_____
POL 268W	4	International Studies in Political Science	_____
SOC 265	4	Third World Development	_____
		OR	
GEO 255	(4)	Third World Development	_____
SOC 268	1-4	International Studies in Sociology	_____
SPA 101	2	Hispanic Civilizations	_____
SPA 275	3	Introduction of Hispanic Fiction	_____

1. A minimum grade of "C" (2.0) or higher is required in GEO 113 and HIS 112W.
2. SOC 231 – Cultural Anthropology – is a highly recommended "Basic Program" elective.
3. Questions regarding this program may be directed to the Director of International/Intercultural Programs or the Counseling Office.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

International Studies (without World Language Skills) - Advanced Certificate

Program Code: CSA.35493

While pursuing your individual program of studies as a Delta College student, you can earn an "add-on" Certificate in International Studies by successfully completing applicable courses from designated sets (A, B, and C) of present Delta courses (or their equivalents). This program is designed to: 1) provide students a wider and deeper range of international awareness and knowledge; 2) promote an interest in other cultures and places; 3) promote an interest in foreign languages; 4) lay the groundwork for future international learning options for you as a Delta graduate, and 5) enhance employment opportunities. The Certificate in International Studies is an "add-on" to the credential for your present program of studies. Courses/credits you already have may be applicable toward the certificate requirements.

Core Courses

Course	Credits	Course Title	Completed
GEO 113	4	World Cultural Geography	_____
HIS 112W	4	A Survey of Later Western Civilization	_____
---	6	Choose From Set B Courses	_____
---	10	Any combination from Sets A,B,and C	_____
	24	TOTAL CREDITS	

SET A: Foreign Languages

Course	Credits	Course Title	Completed
---	2/4	French (FR)	_____
---	4	German (GE)	_____
---	2/4	Spanish (SPA)	_____

SET B: Broad scope Global/International courses

Course	Credits	Course Title	Completed
ECN 268W	4	International Studies in Economics	_____
GEO 111	4	Physical Geography	_____
GEO 255	4	Third World Development	_____
OR			
SOC 265	(4)	Third World Development	_____
HIS 111W	4	A Survey of Early Western Civilization	_____
MGT 265	3	International Business	_____
POL 221W	3	Comparative Government	_____
POL 225W	3	World Politics	_____
SOC 231	3	Cultural Anthropology	_____

Set C: Specialized Global/International courses

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	_____
BIO 230	4	Physical Anthropology And Archeology	_____
OR			
SOC 230	(4)	Physical Anthropology and Archeology	_____

BIO 268	4	International Studies In Biology	_____
ECN 268W	1-4	International Studies in Economics	_____
GEO 222	3	Geography Of Asia	_____
GEO 223	3	Geography Of Europe	_____
GEO 226	3	Geography Of United States And Canada	_____
GEO 260	3	Geography Of The Pacific Islands	_____
GEO 262	1	The Geography Of The Canadian Shield	_____
GEO 268	4	International Studies In Geography	_____
GLG 268	4	International Studies In Geology	_____
HIS 214W	3	Early African-American History Pre-European Africa to 1877	_____
HIS 217	3	Hispanics in the U.S.	_____
HIS 268W	1-4	International Studies in History	_____
IHU 161	1	Projects in Cross-Cultural Learning	_____
OR			
SOC 161	(1)	Projects in Cross-Cultural Learning	_____
IHU 162	2	Projects in Cross-Cultural Learning	_____
OR			
SOC 162	(2)	Projects in Cross-Cultural Learning	_____
ENG 241W	3	Introduction to Mythology	_____
ENG 242W	3	Introduction to British Literature	_____
ENG 245W	3	Biblical Literature: Old Testament	_____
ENG 246W	3	Biblical Literature: New Testament	_____
ENG 268	1-4	International Studies in Literature	_____
POL 222	3	Politics of the Middle East	_____
POL 229W	3	Political Terrorism	_____
POL 268W	4	International Studies in Political Science	_____
SOC 265	4	Third World Development	_____
OR			
GEO 255	(4)	Third World Development	_____
SOC 268	1-4	International Studies in Sociology	_____
SPA 113W	2	Introduction to Hispanic Cultures	_____
SPA 275	3	Introduction of Hispanic Fiction	_____

24 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in GEO 113 and HIS 112.
2. SOC 231 – Cultural Anthropology – is a highly recommended "Basic Program" elective.
4. Questions regarding this program may be directed to the Director of International/Intercultural Programs or the Counseling Office.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Journalism and Emerging Media - Advanced Certificate

Program Code: CEA.35324

This certificate prepares you to report, write and display information using traditional journalistic principles combined with the most effective current technology.

Core Courses

Course	Credits	Course Title	Completed
ART 241	3	Graphics Studio 1	_____
ART 242	3	Graphics Studio 2	_____
CST 110	1	Web Page Development Using HTML	_____
CST 210	2	Advanced Web Page Development	_____
EMB 151	3	Media Production I	_____
EMB 155	4	Media Production II	_____
ENG 115	3	Mass Media	_____
ENG 116	3	News Writing	_____
ENG 216W	3	New Media Writing	_____
ENG 217	3	Advanced Reporting	_____
PHL 205W	3	Media Ethics & Law	_____

31 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Journalism and Emerging Media - Associate in Arts

Program Code: AA.40000

This degree prepares you to report, write and display information using traditional journalistic principles combined with the most effective current technology.

General Education Requirements

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
ECN 221W	4	Principles of Macroeconomics	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
MTH ---	3/4	Any Approved Intermediate Algebra Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
21/23		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
ART 241	3	Graphics Studio 1	_____
ART 242	3	Graphics Studio 2	_____
CST 110	1	Web Page Development Using HTML	_____
CST 210	2	Advanced Web Page Development	_____
EMB 151	3	Media Production I	_____
EMB 155	4	Media Production II	_____
ENG 115	3	Mass Media	_____
ENG 116	3	News Writing	_____
ENG 216W	3	New Media Writing	_____
ENG 217	3	Advanced Reporting	_____
PHL 205W	3	Media Ethics & Law	_____
31		SUBTOTAL	

Approved Electives

Course	Credits	Course Title	Completed
ART 107	3	Elements of Photography	_____
EMB 141W	2	Fundamentals of Audio Production	_____
EMB 154	2	Peripheral Multimedia Applications	_____
EMB 161	2	Podcasting, Online, and Mobile Media	_____
EMB 255W	4	Media Production III	_____
ENG 214	3	Introduction to Professional Writing	_____
ENG 205	1	English Internship I	_____
ENG 210	2	English Internship II	_____
ENG 230	3	English Internship III	_____
IHU 267	3	Producing A Student Publication	_____
MGT 143	3	Principles of Advertising	_____
MGT 243	3	Principles of Marketing	_____
--- ---	4/5	Any approved Natural Science Course with Lab (MTA Transfer)	_____
8/10		SUBTOTAL	

62 TOTAL CREDITS

1. A minimum grade of "C" (2.0) or higher is required in all core courses.
2. Any Approved Intermediate Algebra Course, or higher Math course-with the exception of MTH 153. If planning to transfer, consult with a counselor to ensure that you take math courses appropriate for your program at that institution.
3. POL 104 is recommended if you intend to apply for MTA
4. Curriculum for the Associate in Arts degree is recommended for this program. Please check for transferability with your intended institution or see Advising and Counseling.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.
7. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Lean Resource Management - Certificate of Achievement

Program Code: CTZ.35851

The ability of a company to respond to today's market forces involves the identification and management of the value stream. The focus of this certificate is to provide you with the knowledge and skills to examine how a company can provide value to its customers while staying agile and competitive. It looks at the tools and techniques of value creation and waste reduction within both manufacturing and service organizations while optimizing the company's resources.

Basic Program Requirements

Course	Credits	Course Title	Completed
MIT 118	2	Safety Practices and Procedures	_____
MIT 210	3	Lean Thinking Strategies	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
MTH 208W	3	Elementary Statistics	_____
QA 125	3	Quality System Design	_____
QA 244	3	Statistical Quality Improvement	_____
18	SUBTOTAL		
18	TOTAL CREDITS REQUIRED FOR CERTIFICATE		

1. A grade of "C" (2.0) or higher is required in all courses for certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Legal Support Professional - Law Office Foundation - Advanced Certificate

Program Code: CBA.35283

Not all legal work requires a law degree. As a legal support professional, you may work in a variety of environments and be responsible for a variety of job duties.

You may find work directly under the supervision of a lawyer. While the lawyer assumes responsibility for the legal support professional's work, you will often be allowed to perform all the functions of a lawyer other than accepting clients, setting fees, giving legal advice, or presenting a case in court. You will generally do background work for the lawyer and help a lawyer prepare litigation for trial by investigating the facts of the case to make sure that all relevant information is uncovered. Secretarial services are normally required as well.

You may conduct research to identify the appropriate laws, judicial decisions, legal articles, and other material that will be used to determine whether or not the client has a good case. After analyzing all the information, you may prepare a written report that is used by the attorney to decide how the case should be handled. If the attorney decides to file a lawsuit on behalf of the client, you may prepare legal arguments, draft pleadings to be filed with the court, obtain affidavits, and assist the attorney during the trial. You may also be responsible for routinely typing up the pleadings and client correspondence.

You may find work in a police department, court office, administrative office, nonprofit organization, loss prevention department or human resource office of a company. Job duties in these types of environments could consist of investigative work, process serving, file maintenance, typing of routine documents, applications and pleadings, and research into appropriate administrative or employment statutes and cases.

This program is designed to provide a basic foundation of the work required for a Legal Support Professional.

Core Courses

Course	Credits	Course Title	Completed
LSP 110W	3	Legal Ethics and Responsibilities of the Legal Assistant	_____
LSP 115	3	Principles of Substantive Law	_____
LSP 120	1.5	Legal Research	_____
LSP 230	3	Civil Litigation	_____
LSP 260	1	Legal Support Internship I OR	_____
LSP 261	(2)	Legal Support Internship II OR	_____
LSP 262	(3)	Legal Support Internship III	_____
LSP 280W	1.5	Legal Writing	_____
MGT 251W	3	Business Law I	_____
OAT 151	3	Business Communication I	_____
OAT 171	3	Document Processing: Beginning	_____
22/24		SUBTOTAL	

Electives (Choose a minimum of 8 credits)

Course	Credits	Course Title	Completed
HSC 105	2	Medical Terminology	_____
HSC 205W	2	Legal Aspects of the Health Care System	_____
LIB 195W	2	Library Research Skills	_____
LSP 150	2	Real Estate Law	_____
LSP 210	2	Estate and Trust Administration	_____
LSP 220	2	Environmental Law	_____
LSP 235	3	Criminal Law and Procedure	_____
LSP 240	2	Domestic Relations	_____
LSP 250	2	Corporate Law	_____
LSP 253	3	Bankruptcy Law	_____
MGT 256	3	Human Resources Management I	_____
OAT 273	3	Document Processing: Advanced	_____
PHL 205W	3	Media Ethics & Law	_____
PHL 210W	2	Information Technology Ethics & Law	_____
8/10	SUBTOTAL		

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A LAW OFFICE SPECIALIST CERTIFICATE.

32 TOTAL CREDITS

1. A grade of "C" (2.0) or better is required for LSP 110, LSP 115, LSP 230, LSP 280, MGT 251, OAT 151, OAT 171 and all Elective courses.
2. Proficiency in keyboarding is required for successful completion of this program. If you are not proficient, take OAT 170 in your first semester.
3. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for the waiver test.
4. Satisfactory completion of OAT 172 requires 50 WPM. Workforce demands require at a minimum of 70 WPM. Therefore students may want to take OAT 273 Advanced Document Processing as an elective to increase their typing speed and accuracy.
5. Additional credits earned in LSP 261 or 262 may be used as elective credits.
6. Many employers in the legal field require certain standards of prospective employees at the application stage. Job applications uniformly ask applicants if they have ever been arrested for any offense, either misdemeanor or felony. An affirmative response or finding on the part of a prospective employer may be grounds to deny employment.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Law Office Foundation - Advanced Certificate**

Law Office Foundation - Advanced Certificate

Total Program Cost (In District):	\$4,958.40
On-Time Completion Rate:	50.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Legal Support Professional - Law Office Specialist - Advanced Certificate

Program Code: CBA.35284

Not all legal work requires a law degree. As a legal support professional, you may work in a variety of environments and be responsible for a variety of job duties.

You may find work directly under the supervision of a lawyer. While the lawyer assumes responsibility for the legal support professional's work, you will often be allowed to perform all the functions of a lawyer other than accepting clients, setting fees, giving legal advice, or presenting a case in court. You will generally do background work for the lawyer and help a lawyer prepare litigation for trial by investigating the facts of the case to make sure that all relevant information is uncovered. Secretarial services are normally required as well.

You may conduct research to identify the appropriate laws, judicial decisions, legal articles, and other material that will be used to determine whether or not the client has a good case. After analyzing all the information, you may prepare a written report that is used by the attorney to decide how the case should be handled. If the attorney decides to file a lawsuit on behalf of the client, you may prepare legal arguments, draft pleadings to be filed with the court, obtain affidavits, and assist the attorney during the trial. You may also be responsible for routinely typing up the pleadings and client correspondence.

You may find work in a police department, court office, administrative office, nonprofit organization, loss prevention department or human resource office of a company. Job duties in these types of environments could consist of investigative work, process serving, file maintenance, typing of routine documents, applications and pleadings, and research into appropriate administrative or employment statutes and cases.

This certificate program is designed to provide advanced office skills while specializing in a legal office.

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	_____
CST 106	1	Internet Foundations	_____
CST 110	1	Web Page Development Using HTML	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
LSP 110W	3	Legal Ethics and Responsibilities of the Legal Assistant	_____
LSP 115	3	Principles of Substantive Law	_____
LSP 120	1.5	Legal Research	_____
LSP 230	3	Civil Litigation	_____
LSP 260	1	Legal Support Internship I OR	_____
LSP 261	(2)	Legal Support Internship II OR	_____
LSP 262	(3)	Legal Support Internship III	_____
LSP 280W	1.5	Legal Writing	_____
MGT 251W	3	Business Law I	_____
MGT 252	3	Business Law II	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
		OR	
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II AND	_____
		OR	
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____

OAT 171	3	Document Processing: Beginning	_____
OAT 172	3	Document Processing: Intermediate	_____

39/45 SUBTOTAL

Electives (Choose a minimum of 8 credits)

Course	Credits	Course Title	Completed
LSP 150	2	Real Estate Law	_____
LSP 210	2	Estate and Trust Administration	_____
LSP 220	2	Environmental Law	_____
LSP 235	3	Criminal Law and Procedure	_____
LSP 240	2	Domestic Relations	_____
LSP 250	2	Corporate Law	_____
LSP 253	3	Bankruptcy Law	_____
MGT 256	3	Human Resources Management I	_____

8/10 SUBTOTAL

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A LEGAL SUPPORT PROFESSIONAL ASSOCIATE IN BUSINESS STUDIES DEGREE.

47/55 TOTAL CREDITS

1. A grade of "C" (2.0) or better is required in LSP 110, LSP 115, LSP 230, LSP 280, MGT 251, OAT 151, OAT 152 (or ENG equivalents) OAT 171, and all Elective courses.
2. Proficiency in keyboarding is required for successful completion of this program. If you are not proficient, take OAT 170 in your first semester.
3. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for the waiver test.
4. Additional credits earned in LSP 261 or 262 may be used as elective credit.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Law Office Specialist - Advanced Certificate**

Law Office Specialist - Advanced Certificate

Total Program Cost (In District):	\$7,263.90
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Legal Support Professional - Associate in Business Studies

Program Code: ABS.10282

Not all legal work requires a law degree. As a legal support professional, you may work in a variety of environments and be responsible for a variety of job duties.

You may find work directly under the supervision of a lawyer. While the lawyer assumes responsibility for the legal support professional's work, you will often be allowed to perform all the functions of a lawyer other than accepting clients, setting fees, giving legal advice, or presenting a case in court. You will generally do background work for the lawyer and help a lawyer prepare litigation for trial by investigating the facts of the case to make sure that all relevant information is uncovered. Secretarial services are normally required as well.

You may conduct research to identify the appropriate laws, judicial decisions, legal articles, and other material that will be used to determine whether or not the client has a good case. After analyzing all the information, you may prepare a written report that is used by the attorney to decide how the case should be handled. If the attorney decides to file a lawsuit on behalf of the client, you may prepare legal arguments, draft pleadings to be filed with the court, obtain affidavits, and assist the attorney during the trial. You may also be responsible for routinely typing up the pleadings and client correspondence.

You may find work in a police department, court office, administrative office, nonprofit organization, loss prevention department or human resource office of a company. Job duties in these types of environments could consist of investigative work, process serving, file maintenance, typing of routine documents, applications and pleadings, and research into appropriate administrative or employment statutes and cases.

LAW OFFICE FOUNDATION CERTIFICATE: This program is designed to provide a basic foundation of the work required for a Legal Support Professional.

LAW OFFICE SPECIALIST CERTIFICATE: This program is designed to provide advanced office skills while specializing in a legal office.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication OR	_____
COM 114W	(3)	Interpersonal Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
		OR	
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
		OR	
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology OR	_____
PSY 211W	(4)	Any General Psychology	_____
17/22		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	_____
CST 106	1	Internet Foundations	_____
CST 110	1	Web Page Development Using HTML	_____

CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
LSP 110W	3	Legal Ethics and Responsibilities of the Legal Assistant	_____
LSP 115	3	Principles of Substantive Law	_____
LSP 120	1.5	Legal Research	_____
LSP 230	3	Civil Litigation	_____
LSP 260	1	Legal Support Internship I OR	_____
LSP 261	(2)	Legal Support Internship II OR	_____
LSP 262	(3)	Legal Support Internship III	_____
LSP 280W	1.5	Legal Writing	_____
MGT 251W	3	Business Law I	_____
MGT 252	3	Business Law II	_____
MGT 256	3	Human Resources Management I	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 172	3	Document Processing: Intermediate	_____

36/39 SUBTOTAL

Elective Courses - Choose 5 Courses and a minimum of 10 credits

Course	Credits	Course Title	Completed
HSC 105	2	Medical Terminology	_____
HSC 205W	2	Legal Aspects of the Health Care System	_____
LIB 195W	2	Library Research Skills	_____
LSP 150	2	Real Estate Law	_____
LSP 210	2	Estate and Trust Administration	_____
LSP 220	2	Environmental Law	_____
LSP 235	3	Criminal Law and Procedure	_____
LSP 240	2	Domestic Relations	_____
LSP 250	2	Corporate Law	_____
LSP 253	3	Bankruptcy Law	_____
MGT 257W	3	Human Resources Management II	_____
OAT 273	3	Document Processing: Advanced	_____
PHL 205W	3	Media Ethics & Law	_____
PHL 210W	2	Information Technology Ethics & Law	_____

10/15 SUBTOTAL

63/76 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in LSP 110, LSP 115, LSP 230, LSP 280, MGT 251, OAT 151, OAT 152, (OR ENG equivalents) and all Elective Courses.
2. Proficiency in keyboarding is required for successful completion of this program. If you are not proficient, take OAT 170 in your first semester.
3. Satisfactory completion of OAT 172 requires 50 WPM. Workforce demands require at a minimum 70 WPM. Therefore students may want to take OAT 273 Advanced Document Processing as an elective to increase their typing speed and accuracy.
4. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for the waiver test.
5. Additional credits earned in LSP 261 or 262 may be used as elective credits.
6. Many employers in the legal field require certain standards of prospective employees at the application stage. Job applications uniformly ask applicants if they have ever been arrested for any offense, either misdemeanor or felony. An affirmative response or finding on the part of a prospective employer may be grounds to deny employment.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Liberal Arts - Advanced Certificate

Program Code: CSA.35390

The Liberal Arts Certificate program is intended for students who are planning on completing an Associate in Arts or Science Degree at Delta College. It is also intended for those planning on transferring to a four-year college or university after completing one year of course work at Delta. Required courses in the Liberal Arts Certificate are flexible and may be customized to meet the needs of the student based upon the transfer institution requirements. Most transfer institutions will accept at least 60 credit hours from Delta; therefore students are encouraged to take additional courses beyond the Liberal Arts Certificate requirements. Students seeking the Liberal Arts Certificate must work closely with the transfer school of choice as well as a Delta College Advisor/Counselor to help ensure the appropriate courses are taken at Delta.

Required Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
--- ---	8	Humanities Group Requirement (see below)	_____
--- ---	8	Social Science Group Requirement (see below)	_____
--- ---	8	Natural Science Group Requirement (see below)	_____
30	SUBTOTAL		

Humanities Requirement (in at least two different subject areas) – must select classes from: ARC 251 only; ART(except ART 113, 219, 283, 289); ASL; EMB 140 & 175 only; COM; ENG 253, 254, 256 only; FR; GE; HIS 111 and 112 only; IHU; LIT; MUS (except MUS 138); PHL; RUS; SPA; SSI 110, 232, 234 only.

Social Science Requirement (in at least two different subject areas) – must select classes from: BIO 230 only; ECN; HIS; GEO (except GEO 103, 111, 261, 267); POL; PSY; SOC (except SOC 157, 158, 159, 162); SSI.

Science and Math Requirement (in at least two subject areas; must include at least one lab science of 15 contact hours) – must select classes from AST; BIO; CHM; CST 180, 181, 183, 280, 281, 282 only; ENV 310, 320 only; GEO 103, 111, 261, 267 only; GLG; MTH 115 and above (except MTH 117); PHY; PSC; SOC 230 only; SCI 250 only, TTI 110.

30 TOTAL CREDITS REQUIRED FOR CERTIFICATE OF ACHIEVEMENT

1. Courses below 100 cannot be included in any of the group requirements.
2. Courses listed in more than one Group may not be counted in both groups. For example: HIS 111 and 112 may be included in the Humanities Group or Social Science Group but may not be counted in both.
3. This program is intended for students wishing to complete course work at Delta before transferring to another college/university. Since transfer requirements vary by institution, students are strongly encouraged to meet with representatives from the transfer school. In addition, students should work closely with a Delta Advisor/Counselor in the Academic Advising Center.
4. Earn a minimum of two thirds (2/3) or 20 credits at Delta College.
5. You cannot apply more than twelve (12) credits of "P" grades.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Management - Cosmetology Management - Associate in Business

Program Code: ABS.10251

With a current State of Michigan Cosmetology License, you will receive twenty (20) elective credits at Delta College in the Cosmetology Management Program. Upon completion of the Associate Degree Program, you may be able to continue on at Delta in the 3 + 1 Program with Northwood University. You will also have the skills to open your own salon or manage an existing salon. If you are currently employed in the cosmetology industry, this program of study will also enhance job performance and earning ability. This program will help to fill the void in business training for cosmetology professionals who are required to perform in a business environment with a minimal business background from cosmetology school.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
15/19	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
	20	MI State Board of Cosmetology License	_____
ACC 121	3	Accounting for Managers	_____
OR			
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies	_____
ENT 131W	3	Entrepreneurship/Small Business Management I AND	_____
ENT 231W	3	Entrepreneurship/Small Business Management II	_____
OR			
ENT 131W	(3)	Entrepreneurship/Small Business Management I AND	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
OR			
ENT 131W	(3)	Entrepreneurship/Small Business Management I AND	_____
PHL 203W	(3)	Business Ethics	_____

MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
MGT 251W	3	Business Law I	_____

48 SUBTOTAL

63/67 TOTAL CREDITS

1. A minimum grade of "C" (2.0) or higher is required in ENT 131W and ENT 231W or ENT 131W and CST 134 or ENT 131W and PHL 203W, MGT 110, MGT 153W, MGT 245, MGT 251W, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113
2. You may be granted 20 credits approved by the Delta College Business Information and Technology Division Chair upon verification of the proper evidence of a current Michigan State Board of Cosmetology License.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Management - Entrepreneurship-Small Business Management - Advanced Certificate

Program Code: CBA.35263

This certificate is designed for those planning to work in a small business, or currently managing a small business who want to enhance their skill sets. If you are interested in managing your own business you may want to consider the Entrepreneurship Program in this section.

Core Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 147	2	Electronic Media Communication	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
ENT 231W	3	Entrepreneurship/Small Business Management II	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
26/27	TOTAL CREDITS		

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF THE MANAGEMENT-ENTREPRENEURSHIP/SMALL BUSINESS MANAGEMENT - ASSOCIATE DEGREE.

1. A minimum grade of "C" (2.0) or higher is required in CST 134, MGT 243, MGT 251, AND MGT 256.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Entrepreneurship-Small Business Management - Adv Cert**

Entrepreneurship-Small Business Management - Adv Cert

Total Program Cost (In District):	\$4,189.90
On-Time Completion Rate:	42.86%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Management - Entrepreneurship-Small Business Management - Associate in Business Studies

Program Code: ABS.10262

This degree is designed for those planning to work in a small business, or currently managing a small business who want to enhance their skill sets. If you are interested in managing your own business you may want to consider the Entrepreneurship Program in this section.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
15/19	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers	_____
OR			
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 147	2	Electronic Media Communication	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
ENT 231W	3	Entrepreneurship/Small Business Management II	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 245	3	Principles of Management	_____
MGT 251W	3	Business Law I	_____
MGT 252	3	Business Law II	_____
MGT 256	3	Human Resources Management I	_____
---	6	Approved Business Electives	_____
48/49	SUBTOTAL		
63/68	TOTAL CREDITS		

1. A minimum grade of "C" (2.0) or higher is required in CST 134, MGT 110, MGT 153W, MGT 245, MGT 251, MGT 252, MGT 256, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113
2. Business Approved Electives are any MGT 200-level courses or ACE courses not already required in the degree program.

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3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 4. Delta College reserves the right to modify graduation requirements.

Management - General Management - Associate in Business Studies

Program Code: ABS.10254

This degree is designed to provide a basic foundation in the major functional areas of business management and allows you to structure an individual program that will meet your own needs. This degree option may be completed online.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
15/19	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	_____
ACC 212	4	Principles of Accounting II	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 147	2	Electronic Media Communication	_____
CST 155	3	Microsoft EXCEL	_____
MGT 110	3	Business Mathematics	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 245	3	Principles of Management	_____
MGT 251W	3	Business Law I	_____
MGT 252	3	Business Law II	_____
MGT 256	3	Human Resources Management I	_____
MGT 265	3	International Business	_____
MGT 275	3	Management Seminar	_____
---	6	Approved Business Electives	_____
50	SUBTOTAL		
65/69	TOTAL CREDITS		

1. A minimum grade of "C" (2.0) or higher is required in MGT 110, MGT 153W, MGT 243, MGT 251W, MGT 252, MGT 256, MGT 275, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113
2. OAT 152 cannot be completed as part of the online option.
3. Contact the Health & Wellness Division for information on completing LWA credit through individual instruction to complete the General Management degree option online.
4. Business Approved Electives are any MGT 200-level courses or ACE courses not already required in the degree program.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.

6. Delta College reserves the right to modify graduation requirements.

Management - Marketing Management - Associate in Business

Program Code: ABS.10256

This degree is designed to prepare you for a career in the field of marketing. As a graduate you will have studied the basics of: advertising from the marketing usage point of view; consumer behavior relating to buying; merchandising policies, budgets and planning; sales; retail organizational structure; product promotion and distribution.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
15/19	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers	_____
OR			
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 147	2	Electronic Media Communication	_____
MGT 110	3	Business Mathematics	_____
MGT 143	3	Principles of Advertising	_____
MGT 145	3	Principles of Sales	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 245	3	Principles of Management	_____
MGT 247	3	Principles of Retailing	_____
MGT 251W	3	Business Law I	_____
MGT 254	3	Applied Marketing	_____
MGT 265	3	International Business	_____
---	6	Approved Business Electives	_____
48/49	SUBTOTAL		
63/68	TOTAL CREDITS		

1. A minimum grade of "C" (2.0) or higher is required in CST 134, MGT 110, MGT 153W, MGT 243, MGT 245, MGT 247, MGT 251W, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113

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2. Business Approved Electives are any MGT 200-level courses or ACE courses not already in the degree program.
 3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
 4. Delta College reserves the right to modify graduation requirements.

Management - Office Services Management - Advanced Certificate

Program Code: CBA.35258

This certificate is designed to provide office operations management skills such as: developing and managing systems for office procedures; report and data compilation; filing and record keeping; information gathering techniques; personnel administration.

Core Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 105	1	Outlook	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 151	2	Spreadsheet Fundamentals	_____
CST 257	3	Database MS Access	_____
MGT 256	3	Human Resources Management I	_____
OAT 155W	2	Editing	_____
OAT 157	2	File Management	_____
OAT 170	2	Keyboarding	_____
OAT 171	3	Document Processing: Beginning	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A MANAGEMENT - OFFICE SERVICES MANAGEMENT - ASSOCIATE IN BUSINESS STUDIES DEGREE.

24/25 TOTAL CREDITS

1. A minimum grade of "C" (2.0) or higher is required in MGT 256.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Office Services Management - Advanced Certificate**

Office Services Management - Advanced Certificate

Total Program Cost (In District):	\$3,882.50
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Management - Office Services Management - Associate in Business Studies

Program Code: ABS.10258

This degree is designed to provide office operations management skills such as: developing and managing systems for office procedures; report and data compilation; filing and record keeping; information gathering techniques; personnel administration.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
15/19	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers	_____
OR			
ACC 211	(4)	Principles of Accounting I	_____
CST 105	1	Outlook	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 151	2	Spreadsheet Fundamentals	_____
CST 257	3	Database MS Access	_____
MGT 110	3	Business Mathematics	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
OAT 155W	2	Editing	_____
OAT 157	2	File Management	_____
OAT 170	2	Keyboarding	_____
OAT 171	3	Document Processing: Beginning	_____
	6	General Electives	_____
46/47	SUBTOTAL		
62/66	TOTAL CREDITS		

1. A minimum grade of "C" (2.0) or higher is required in MGT 110, MGT 153W, MGT 245, MGT 251W, MGT 256 and OAT 151 and OAT 152 or ENG

equivalents.

2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Management - Retail Management - Advanced Certificate

Program Code: CBA.35260

This certificate is designed to provide skills related to the distribution of merchandise and services within a retail store through buying procedures, inventory control and pricing; marketing processes and functions; advertising strategies.

Core Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 147	2	Electronic Media Communication	_____
MGT 143	3	Principles of Advertising	_____
MGT 145	3	Principles of Sales	_____
MGT 151	3	Visual Merchandising	_____
MGT 243	3	Principles of Marketing	_____
MGT 247	3	Principles of Retailing	_____
MGT 248	3	Principles of Buying for Resale	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF A MANAGEMENT - RETAIL MANAGEMENT - ASSOCIATE IN BUSINESS STUDIES DEGREE.

29/30 TOTAL CREDITS

1. A minimum grade of "C" (2.0) or higher is required in MGT 151, MGT 243, MGT 251W and MGT 256.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Retail Management - Advanced Certificate**

Retail Management - Advanced Certificate

Total Program Cost (In District):	\$4,651.00
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Management - Retail Management - Associate in Business Studies

Program Code: ABS.10260

This degree is designed to provide skills related to the distribution of merchandise and services within a retail store through buying procedures, inventory control and pricing; marketing processes and functions; advertising strategies.

General Education Courses

Course	Credits	Course Title	Completed
ECN 221W	4	Principles of Macroeconomics	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
15/19	SUBTOTAL		

Required Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 147	2	Electronic Media Communication	_____
MGT 110	3	Business Mathematics	_____
MGT 152	3	Textiles	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
MGT 247	3	Principles of Retailing	_____
MGT 251W	3	Business Law I	_____
MGT 254	3	Applied Marketing	_____
MGT 256	3	Human Resources Management I	_____
33/34	SUBTOTAL		

Required Electives (Select 15 credits from below)

Course	Credits	Course Title	Completed
ACE ---	1-4	Academic Career Experience	_____
MGT 143	3	Principles of Advertising	_____
MGT 145	3	Principles of Sales	_____
MGT 151	3	Visual Merchandising	_____
MGT 243	3	Principles of Marketing	_____
MGT 248	3	Principles of Buying for Resale	_____
MGT 257W	3	Human Resources Management II	_____

15 SUBTOTAL

63/68 TOTAL CREDITS

1. A minimum grade of "C" (2.0) or higher is required in MGT 110, MGT 151, MGT 153W, MGT 243, MGT 245, MGT 251W, MGT 256, OAT 151, and OAT 152 (or ENG equivalents).
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Management - Subsequent Degree - Business Management - Associate in Business Studies

Program Code: ABS.10255

Students who already have an Associate or Bachelor Degree from a regionally accredited institution must have 24 credits by instruction at Delta College. Accordingly, the minimum number of credits earned must equal the credits required for the first degree plus 24.

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	_____
ACC 212	4	Principles of Accounting II	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
ECN 221W	4	Principles of Economics I	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 245	3	Principles of Management	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 265	3	International Business	_____
--- ---	3	Business Electives	_____
OAT 151	3	Business Communication I	_____

24 TOTAL CREDITS

1. Included in the 24 credits will be at least one computer course, one accounting course and MGT 245.
2. Official transcript documenting previous degree will have to be on file in Records and Registration.
3. A minimum grade of "C" (2.0) or higher is required in MGT 153W, MGT 243, MGT 245, MGT 251W, MGT 256, MGT 265, and OAT 151.
4. Completion of the above classes will give you an Associate Degree in Business Management from Delta College. Some of the above credits may have been earned on an earlier degree, the minimum number of credits earned must equal the credits required for the first degree plus 24.
5. Contact the Delta College Counseling Office at 686-9330 for more information.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Management - Subsequent Degree - Northwood 3+1 - Associate in Business Studies

Program Code: ABS.85005

Students who already have an Associate Degree in any field, (other than management programs) from a regionally accredited institution, who wish to obtain a Bachelor Degree in Management through the Delta College-Northwood partnership must complete the following Delta classes and then complete their senior year at Northwood.

Core Courses

Course	Credits	Course Title	Completed
ACC 211	4	Principles of Accounting I	_____
ACC 212	4	Principles of Accounting II	_____
CST 133W	4	Computer Concepts & Competencies	_____
ECN 221W	4	Principles of Economics I	_____
ECN 222W	4	Principles of Economics II	_____
MGT 153W	3	Introduction to Business	_____
MGT 243	3	Principles of Marketing	_____
MGT 245	3	Principles of Management	_____
MGT 251W	3	Business Law I	_____
MTH 208W	3	Elementary Statistics	_____
PHL 203W	3	Business Ethics OR	_____
PHL 213W	(3)	Introduction to Ethics	_____
---	3	Approved Business Electives	_____
24		TOTAL CREDITS	

1. Official transcript documenting previous degree will have to be on file in Records and Registration.
2. Completion of the above classes will give you an Associate Degree in Business Management from Delta College. Some of the above credits may have been earned on an earlier degree, the minimum number of credits earned must equal the credits required for the first degree plus 24.
3. A minimum grade of "C" (2.0) or better is required in MGT 153W, MGT 243, MGT 245, and MGT 251W.
4. Business approved electives are any MGT 200-level courses or ACE courses not already required in the degree program.
5. Contact the Delta College Counseling Office at 686-9330 for more information.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Manufacturing And Industrial Technology - Lean - Quality Manufacturing - Advanced Certificate

Program Code: CTA.35852

Companies need to effectively manage their value stream whether they are competing locally or on a global level. The focus of this certificate is to provide a person with the knowledge and skills to exam how a company can provide value to its customers while staying agile and competitive. It looks at the tools and techniques of value creation and waste reduction within manufacturing organizations while optimizing the company's resources.

Core Courses

Course	Credits	Course Title	Completed
MIT 111W	3	Manufacturing Processes	_____
MIT 118	2	Safety Practices and Procedures	_____
MIT 210	3	Lean Thinking Strategies	_____
MIT 212	2	Manufacturing Cell	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
MTH 208W	3	Elementary Statistics	_____
QA 125	3	Quality System Design	_____
QA 244	3	Statistical Quality Improvement	_____
QA 250	3	Introduction to Six Sigma	_____

26 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Manufacturing And Industrial Technology - MIT Supervisor - Certificate of Achievement

Program Code: CTZ.35850

Work, in an industrial setting, is accomplished through the actions of skilled, knowledgeable people. The ability to provide leadership and management expertise in such an environment while efficiently utilizing resources to accomplish the organization's goals requires its own set of skills. Teamwork, safety requirements, and the increasing diversity of the workforce are just a few of the issues today's supervisors need to effectively respond to in order to as they accomplish work in an organization. This certificate is designed to increase the knowledge and skills of supervisors so they can manage their resources in order to meet the company's goals.

Core Courses

Course	Credits	Course Title	Completed
COM 114W	3	Interpersonal Communication	_____
COM 202W	3	Oral Communication for Managers	_____
MGT 245	3	Principles of Management	_____
MGT 256	3	Human Resources Management I	_____
MIT 118	2	Safety Practices and Procedures	_____
MIT 210	3	Lean Thinking Strategies	_____
QA 244	3	Statistical Quality Improvement	_____

20 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Manufacturing And Industrial Technology - Associate in Applied Science

Program Code: AAS.15851

Manufacturing continues to advance by cutting across all disciplines in order to drive economic growth. This program is designed to give you the flexibility to acquire the knowledge and skills needed in this rapidly changing area. You will be able to develop a broad understanding of issues facing manufacturing today while also focusing on a specific area. As a manufacturing technologist, you will need to understand the interrelationships of materials selection and manufacturing processes in order to operate competitively in a global economy. You will also need to understand the roles quality, cost, delivery, safety and morale play in a successful manufacturing company. Teamwork, problem solving, and communication skills will be emphasized because of the importance they play in your success in the company. You will have experience with automated systems and robotic applications. You will need to be able to use computers to control and monitor processes and for communicating with team members, customers, suppliers, and others both internally and externally. Refer to www.delta.edu/tech for more information.

General Education

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
--- ---	4	Approved Natural Science with Lab (Refer to Group III Graduation Requirements)	_____
19/20	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
CAD 114	3	Introduction to CAD	_____
CAD 120	3	Introduction to CAM	_____
CAD 226	3	3D Parametric Solid Modeling	_____
CNC 162	4	Computer Numerical Control Theory	_____
CNC 225	4	Mastercam	_____
DRF 121	3	Blueprint Reading	_____
OR			
SKDR 101	(3)	Blueprint Reading	_____
EET 235	3	Electrical Circuits	_____
ET 162	3	Industrial Robotics I	_____
MIT 111W	3	Manufacturing Processes	_____
MIT 118	2	Safety Practices and Procedures	_____
MIT 240	3	Manufacturing and Industrial Technology Capstone	_____
MS 113	2	Introduction to Machining Processes	_____
MS 181W	4	Machine Tools I	_____
MT 220	3	Introduction to Fluid Power	_____
MT 221W	3	Introduction to Engineering Materials	_____
46	SUBTOTAL		
65/66	TOTAL CREDITS		

1. A Grade of "C" (2.0) or higher is required in CAD 114, CAD 120, CAD 226, CNC 162, CNC 225, DRF 121, EET 235, MIT 111W, MIT 118, MIT 240, MS 181W, MT 220, MT 221W, and SKDR 101.
2. CAD 114, CAD 226, and CNC 225 are key courses and must be completed within 5 years of completing the degree. Failure to complete within the

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- stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
3. The capstone class, MIT 240, is required for graduation. Students must request approval from the program coordinator to apply for capstone course one (1) semester prior to enrollment.
 4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 5. Delta College reserves the right to modify graduation requirements.

Mechanical Engineering Technology - Associate in Applied Science

Program Code: AAS.15822

This program provides you with a sufficient broad base in the fundamentals of mechanical technology, drafting, CAD, manufacturing and design to be successful as a mechanical engineering technician in a metallurgical or product test laboratory, as a field technician, as an engineering aide in manufacturing or product engineer, in quality control, or in sales and service. Responsibilities as a lab technician may include not only setting up a test apparatus and running tests on an experimental product, but also writing the report and making recommendations.

General Education Courses

Course	Credits	Course Title	Completed
CHM 101W	5	General Chemistry I OR	_____
CHM 107	(4)	Chemistry for Engineering Technology OR	_____
CHM 111	(5)	General and Inorganic Chemistry I	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
GEO 116W	1	Professional Global Awareness	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
MTH 121	3	Plane Trigonometry	_____
MTH 208W	3	Elementary Statistics	_____
PHL 213W	3	Introduction to Ethics	_____
PHY 111	4	General Physics I	_____
POL ---	3/4	Any Approved American Government Requirement	_____
33/35		SUBTOTAL	

Required Core Courses

Course	Credits	Course Title	Completed
ACE 285W	1	Internship: Design Technology	_____
EET 235	3	Electrical Circuits	_____
EGR 165	4	Introduction to Engineering Graphics OR	_____
EGR 166	(4)	Engineering Graphics OR	_____
DRF 257	(4)	Advanced Mechanical Design	_____
MIT 111W	3	Manufacturing Processes	_____
MT 221W	3	Introduction to Engineering Materials	_____
MS 181W	4	Machine Tools I	_____
MT 220	3	Hydraulics & Pneumatics I	_____
MT 250	4	Statics and Strength of Materials	_____
MT 256	3	Machine Design	_____
28		SUBTOTAL	

Elective Courses (Choose 12 credits)

Course	Credits	Course Title	Completed
CAD 114	3	Introduction to CAD	_____
CAD 120	3	Introduction to CAM	_____
CAD 226	3	3D Parametric Solid Modeling	_____
CAD 232	2	Introduction to Rapid Prototyping	_____
CNC 162	4	Computer Numerical Control Theory	_____
CNC 216	4	CNC with Machining Applications	_____
CNC 225	4	Mastercam	_____
CPI 110	2	Introduction To Chemical Process Industries	_____
CPI 120	2	Introduction To Process Operations	_____
DRF 107	3	Intermediate Mechanical Design	_____
DRF 121	3	Blueprint Reading	_____
DRF 128	2	Geometric Tolerancing	_____
ET 122	5	Programmable Logic Controllers	_____
ET 162	3	Industrial Robotics I	_____
ET 262	3	Industrial Robotics II	_____
MGT 153W	3	Introduction to Business	_____
MIT 118	2	Safety Practices and Procedures	_____
QA 125	3	Quality System Design	_____
QA 244	3	Statistical Quality Improvement	_____
QA 250	3	Introduction to Six Sigma	_____

12 SUBTOTAL

73/75 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all courses for the degree.
2. CAD 114, CAD 226, DRF 107, DRF 257, EGR 165/EGR 166 are Key courses must be completed within 5 years of completing certificate or degree. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page.
3. In a laddered program, ACE 285W is only required to be taken one time.
4. CAD/DRAFTSMAN CAREER TRACK: Suggested Elective courses: CAD 114, CAD 226, DRF 107, DRF 121, DRF 128, DRF 257.
5. INDUSTRIAL ROBOTICS CAREER TRACK: Suggested Elective courses: CNC 162, ET 122, ET 162, ED 262, MIT 118.
6. CHEMICAL MANUFACTURING CAREERTRACK: Suggested Elective courses: CPI 110, CPI 120, MIT 118.
8. ENGINEERING CAD/CAM CAREER TRACK: Suggested Elective courses: CAD 120, CNC 162, CNC 216, CNC 225 MIT 118.
8. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
9. Delta College reserves the right to modify graduation requirements.

Mechatronics Technology - Advanced Certificate

Program Code: CTA.35913

The Mechatronics Technology – Advanced Certificate provides the educational requirements for a mechatronics technician. Mechatronics integrates the disciplines of electrical, mechanical, fluid power, robotics, and computer technologies to control equipment. Duties of a mechatronics technician include the installation, troubleshooting, repair, and preventative maintenance of automated systems. Employment opportunities include the medical field, original equipment manufacturers, food processing plants, manufacturing facilities, and independent contracting.

Core Courses

Course	Credits	Course Title	Completed
ET 100	2	Electrical Calculations	_____
ET 110	2	DC Circuits	_____
ET 120	2	AC Circuits	_____
ET 122	5	Programmable Logic Controllers	_____
ET 130	3	Conventional Controls	_____
ET 134	2	Transformers	_____
ET 140	4	Motor Controls and Drives	_____
ET 162	3	Industrial Robotics I	_____
ET 164	3	Robotics Electrical Service & Troubleshooting	_____
ET 210	4	Introduction to Electronics	_____
ET 250	4	Programmable Logic Controllers II - Siemens	_____
ET 252	4	Programmable Logic Controllers II - AB ControlLogix	_____
ET 280	3	Industrial Computer Networks	_____
MT 151	3	Power Transmission	_____
MT 220	3	Hydraulics and Pneumatics I	_____

47 TOTAL CREDITS

1. A grade of "C" (2.0) or better is required in all courses to earn degree.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Mechatronics Technology - Advanced Certificate**

Mechatronics Technology - Advanced Certificate

Total Program Cost (In District):	\$7,494.50
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Mechatronics Technology - Associate in Applied Science

Program Code: AAS.15891

Mechatronics is a field that is directly tied to how manufacturers produce their products. The Associate Degree Program in Mechatronics Technology prepares you for employment as a mechatronics technician. The field of mechatronics integrates the disciplines of electrical, mechanical, fluid power, robotics, and computer technologies to control equipment. Duties of a mechatronics technician include the installation, troubleshooting, repair, and preventative maintenance of automated systems. Employment opportunities include the medical field, original equipment manufacturers, food processing plants, manufacturing facilities, and independent contracting.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
LW 223W	2	Wellness in Technical Trades	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
15/16		SUBTOTAL	

Core Requirements

Course	Credits	Course Title	Completed
ET 100	2	Electrical Calculations	_____
ET 110	2	DC Circuits	_____
ET 120	2	AC Circuits	_____
ET 122	5	Programmable Logic Controllers	_____
ET 130	3	Conventional Controls	_____
ET 134	2	Transformers	_____
ET 140	4	Motor Controls and Drives	_____
MT 151	3	Power Transmission	_____
ET 162	3	Industrial Robotics I	_____
ET 164	3	Robotics Electrical Service & Troubleshooting	_____
ET 210	4	Introduction to Electronics	_____
MT 220	3	Hydraulics and Pneumatics I	_____
ET 250	4	Programmable Logic Controllers II - Siemens	_____
ET 252	4	Programmable Logic Controllers II - AB ControlLogix	_____
ET 280	3	Industrial Computer Networks	_____
47		SUBTOTAL	

Students must complete at least 7 elective credits. Students may choose from the following disciplines. Refer to Program Notes for Career Track recommended electives.

Electives

Course	Credits	Course Title	Completed
		Any Computer Science & Information Technology Courses (CST)	_____
		Additional ET Courses that are not required in program	_____
		Any General Management Courses (MGT)	_____
		Any Manufacturing and Industrial Technology Courses (MIT)	_____
		Any Mechanical Technology Courses (MT)	_____
7		SUBTOTAL	
69/70		TOTAL CREDITS	

1. A grade of "C" (2.0) is required in all Core Courses to earn the degree.
2. For a career track with an emphasis on electronics, the following electives are suggested:
 1. ET 102 Industrial Electronics (4 Credits)
 2. ET 200 HMI Programming (4 Credits)
3. For a career track with an emphasis on computers, the following electives are suggested:
 1. CST 160 Networking Essentials (3 Credits)
 2. CST 133W Computer Concepts & Competencies (4 Credits)
4. For a career track with an emphasis on mechanical technology, the following electives are suggested:
 1. MIT 118 Safety Practices and Procedures (2 Credits)

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2. MS 113 Introduction to Machining Processes (2 Credits)
 3. MS 181W Machine Tools I (4 Credits)
 4. MT 161 Industrial Rigging and Safety (2 Credits)
 5. For a career track with an emphasis on manufacturing processes, the following electives are suggested:
 1. MIT 111W Manufacturing Processes (3 Credits)
 2. MIT 118 Safety Practices and Procedures (2 Credits)
 3. MIT 212 Manufacturing Cell (2 Credits)
 6. For a career track with an emphasis on independent contracting, the following electives are suggested:
 1. MGT 153W Introduction to Business (3 Credits)
 2. MGT 245 Principles of Management (3 Credits)
 3. MGT 251W Business Law I (3 Credits)
 7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
 8. Delta College reserves the right to modify graduation requirements.

Medical Office Professions - Health Insurance Coding and Claims Specialist - Advanced Certificate

Program Code: CBA.35286

The efficiency of a medical office and the quality of medical care provided depend in large part upon the staff members who supplement and support the role of the physician. As a medical office staff member, you must have strong communication skills, organizational ability, computer knowledge, and excellent human relations skills.

Health insurance coding and claims specialists accurately report physician services for reimbursement to patients' insurance companies. They are also required to understand the legal responsibilities of medical office staff members.

This certificate has a common core of classes that is also required for the Medical Administrative Assistant Associate in Business Studies Degree. Those core classes include BIO 101, HSC 105, HSC 205, HSC 210, OAT 105, and OAT 151.

Core Courses

Course	Credits	Course Title	Completed
BIO 101W	4	Introduction to Anatomy And Physiology	_____
HSC 105	2	Medical Terminology	_____
HSC 205W	2	Legal Aspects of the Health Care System	_____
HSC 210	1	Medical Office Pharmacology	_____
OAT 105W	1	Time Management	_____
OAT 116	2	Introduction to the Medical Office	_____
OAT 151	3	Business Communication I	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 243	3	Diagnostic Coding	_____
OAT 244	3	Procedure Coding	_____
OAT 254	3	Medical Insurance I	_____
OAT 255	3	Medical Insurance II	_____

30 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in the following courses: BIO 101, HSC 105, OAT 151, OAT 171, OAT 243, OAT 244, OAT 254, and OAT 255.
2. BIO 101, HSC 105, HSC 205, OAT 171, OAT 243, OAT 244, OAT 254, and OAT 255 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. OAT 170 with a "B" grade or better is a prerequisite for OAT 171. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
4. Credit by exam is available for OAT 151, OAT 171, OAT 243, and OAT 244. Contact the Assessment Testing office, 989-686-9182, to arrange for credit by exam test.
5. HSC 105 and one of the following: BIO 101, BIO 131, BIO 132, BIO 140, BIO 152, BIO 153, BIO 160, or BIO 240, both with a minimum grade of "C" (2.0) are prerequisites for HSC 210.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Health Insurance Coding & Claims Specialist- Adv Cert**

Health Insurance Coding & Claims Specialist- Adv Cert

Total Program Cost (In District):	\$4,651.00
On-Time Completion Rate:	62.96%
Program Job Placement Rate:	Not Required
Median Loan Dept:	\$0.00

Medical Office Professions - Medical Administrative Assistant - Associate in Business Studies

Program Code: ABS.10288

The efficiency of a medical office and the quality of medical care provided depend in large part upon the staff members who supplement and support the role of the physician. As a medical office staff member, you must have strong communication skills, organizational ability, computer knowledge, and excellent human relations skills.

Medical administrative assistants understand and use medical terminology; complete medical insurance claims; handle correspondence, medical records and physicians' dictation; greet and direct patients; and manage appointment schedules and the telephone. They are also required to understand the legal responsibilities of medical office staff members.

This certificate has a common core of classes that is also required for the Health Insurance Coding and Claims Specialist/Advanced Certificate. Those core classes include BIO 101, HSC 105, HSC 205, HSC 210, OAT 105, and OAT 151.

General Education Courses

Course	Credits	Course Title	Completed
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I	_____
ENG 111	(3)	College Composition I	_____
ENG 113	(3)	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/15	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
BIO 101W	4	Introduction to Anatomy and Physiology	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals	_____
HSC 105	2	Medical Terminology	_____
HSC 140	2	Basic Medical Emergencies	_____
HSC 205W	2	Legal Aspects of the Health Care System	_____
HSC 210	1	Medical Office Pharmacology	_____
MGT 153W	3	Introduction to Business	_____
OAT 105W	1	Time Management	_____
OAT 116	2	Introduction to the Medical Office	_____
OAT 155W	2	Editing	_____
OAT 160	3	Records Management	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 172	3	Document Processing: Intermediate	_____
OAT 175	2	Electronic Calculation	_____
OAT 243	3	Diagnostic Coding	_____
OAT 244	3	Procedure Coding	_____
OAT 254	3	Medical Insurance I	_____
OAT 255	3	Medical Insurance II	_____
OAT 260	3	Medical Transcription: Beginning	_____
OAT 266	4	Medical Office Practice	_____
OAT 273	3	Document Processing: Advanced	_____
55	SUBTOTAL		

Recommended Electives

Course	Credits	Course Title	Completed
ACE ---	2-6	Academic Career Experience	_____

66/70 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in the following courses: BIO 101, CST 151, HSC 105, OAT 116, OAT 151, OAT 152, (OR ENG 111, 112, 113), OAT 172, OAT 243, OAT 244, OAT 254, OAT 255, OAT 260, OAT 266, OAT 273.
2. BIO 101, CST 105, CST 151, HSC 105, HSC 140, HSC 205, OAT 172, OAT 243, OAT 244, OAT 254, OAT 255, OAT 260, OAT 266, and OAT 273 are Key courses and must be completed within 5 years of completing certificate. Failure to complete within the stated time frame will require you to repeat this course. See graduation requirements page in catalog.
3. Credit by exam is available for CST 105, CST 151, OAT 151, OAT 171, OAT 172, OAT 175, OAT 243, and OAT 244.
4. Keyboarded assignments required for OAT 151 and OAT 152.
5. OAT 175 and OAT 116 require MATH LEVEL 2.
6. OAT 170 with a "B" grade or better is a prerequisite for OAT 171. Keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989-686-9127, to arrange for waiver test.
7. HSC 105 and one of the following: BIO 101, BIO 131, BIO 132, BIO 140, BIO 152, BIO 153, BIO 160, or BIO 240, both with a minimum grade of "C" (2.0) are prerequisites for HSC 210.
8. OAT 266 is a winter-only offering. OAT 151, OAT 172, OAT 254, and OAT 260 with a C (2.0) grade minimum are the prerequisites for OAT 266.
9. CST 155 Microsoft Excel may be used to substitute for CST 151 Spreadsheet Fundamentals.
10. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
11. Delta College reserves the right to modify graduation requirements.

Nursing (ADN) - Associate in Applied Science

Program Code: AAS.20564

The ADN program prepares you to function effectively as a member of the health care team. This program requires a strong commitment to critical thinking, team collaboration, leadership, and development of sound clinical knowledge and skills. As a graduate nurse, you will be qualified for employment in structured settings: For example, acute care hospitals, extended care facilities, nursing homes, and clinics. Upon successfully completing this program, you are eligible to take the Registered Nurse licensure exam. This Delta College program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; ph: 404-975-5000 (<http://acenursing.org>) and approved by the Michigan Board of Nursing.

BIO 152, BIO 153, or (BIO 240, BIO 241), ENG 111 and PHM 285 must be completed with a minimum grade of B(3.0) and the remaining core courses with a minimum grade of C (2.0). Students must maintain a 2.5 GPA or higher in the core courses to validate for the program of their choice. All remaining General Education courses must be completed with a minimum grade of C (2.0) prior to graduation.

Core Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I AND	_____
BIO 153W	4	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
BIO 203W	4	General Microbiology	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
LW 222	3	The Science of Nutrition and Exercise	_____
MTH 117	0/2	Math for Allied Health or competency test	_____
PHL 215W	3	Health Care Ethics OR	_____
PHL 230	(2)	Bioethics for Nursing	_____
PHM 285	3	Pharmacology for Health Care Professionals	_____
26/29	SUBTOTAL		

General Education Courses

Course	Credits	Course Title	Completed
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 211W	4	General Psychology	_____
SOC 211W	3	Principles of Sociology	_____
10/11	SUBTOTAL		

Basic Program Requirements - Full-time ADN Track: Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application" and be officially validated. See Validation Procedure in this catalog for the required process.

RN Full-time Semester 1:

Course	Credits	Course Title	Completed
NUR 101AW	3.5	Nursing Fundamentals	_____
NUR 101ALW	1.5	Nursing Fundamentals Lab	_____
NUR 101BW	2	Care of the Aging Adult	_____
NUR 101BLW	2	Care of the Aging Adult Lab	_____
9	SUBTOTAL		

RN Full-time Semester 2:

Course	Credits	Course Title	Completed
NUR 115W	2	Maternity Nursing	_____
NUR 115LW	1	Maternity Nursing Lab	_____
NUR 116W	2	Pediatric Nursing	_____
NUR 116LW	1	Pediatric Nursing Lab	_____
NUR 119W	2	Mental Health Nursing	_____
NUR 119LW	1	Mental Health Nursing Lab	_____
9	SUBTOTAL		

RN Full-time Semester 3:

Course	Credits	Course Title	Completed
NUR 240W	4.7	Basic Nursing Care of the Adult Client	_____
NUR 240LW	4.3	Basic Nursing Care of the Adult Client Lab	_____
9	SUBTOTAL		

RN Full-time Semester 4:

Course	Credits	Course Title	Completed
NUR 250W	4	Nursing Care and Management Throughout the Health Continuum	_____
NUR 250LW	5	Nursing Care and Management Throughout the Health Continuum Lab	_____
9	SUBTOTAL		

Basic Program Requirements Part-time ADN Track: Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application" and be officially validated. See Validation Procedure in this catalog for the required process.

RN Part-time Semester 1:

Course	Credits	Course Title	Completed
NPT 102AW	3.7	Nursing Fundamentals	_____
NPT 102ALW	2.3	Nursing Fundamentals Lab	_____
6	SUBTOTAL		

RN Part-time Semester 2:

Course	Credits	Course Title	Completed
NPT 103W	1.7	Care of the Aging Adult	_____
NPT 103LW	1.3	Care of the Aging Adult Lab	_____
NPT 119W	2	Mental Health Nursing	_____
NPT 119LW	1	Mental Health Nursing Lab	_____
6	SUBTOTAL		

RN Part-time Semester 3:

Course	Credits	Course Title	Completed
NPT 115W	2	Maternity Nursing	_____
NPT 115LW	1	Maternity Nursing Lab	_____
NPT 116W	2	Pediatric Nursing	_____
NPT 116LW	1	Pediatric Nursing Lab	_____
6	SUBTOTAL		

RN Part-time Semester 4:

Course	Credits	Course Title	Completed
NPT 260AW	4	Basic Nursing Care of the Adult Client A	_____
NPT 260ALW	2	Basic Nursing Care of the Adult Client Lab A	_____
6	SUBTOTAL		

RN Part-time Semester 5:

Course	Credits	Course Title	Completed
NPT 260BW	4	Basic Nursing Care of the Adult Client B	_____
NPT 260BLW	2	Basic Nursing Care of the Adult Client B	_____
6	SUBTOTAL		

RN Part-time Semester 6:

Course	Credits	Course Title	Completed
NPT 270W	1	Nursing Care and Management Throughout the Health Continuum Lab	_____
NPT 270LW	5	Nursing Care and Management Throughout the Health Continuum Lab	_____
6	SUBTOTAL		

72/76 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE (FULL- OR PART-TIME)

1. Students must have completed BIO 152 and BIO 153 or BIO 240 and BIO 241 within the past ten years. If this time period is exceeded, an approved biology course must be taken to refresh this content. Please see the nursing program coordinator to determine which course(s) must be taken. It is recommended that BIO 203 also be current within ten years.
2. It is important that you check a semester ahead of time when you plan on validating for the nursing program to make sure course requirements have not changed. Updated information can be found through the nursing web page: www.delta.edu/nursing, calling the Counseling Office (989-686-9330) or the Nursing Discipline Office (989-686-9500 or 989-686-9274).
3. Prerequisite qualifications for validation are: (a) be admitted to Delta College, (b) provide official transcripts reflecting high school diploma or GED, and all other colleges or training institutions attended; BIO 152, BIO 153, or (BIO 240, BIO 241), ENG 111 and PHM 285 must be completed with a minimum grade of B(3.0) and the remaining core courses with a minimum grade of C (2.0). Students must maintain a 2.5 GPA or higher in the core courses to validate for the program of their choice. All remaining General Education courses must be completed with a minimum grade of C (2.0) prior to graduation. If pursuing a BSN degree, PHL 215 is recommended in place of PHL 230.
4. Due to limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" program. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Registrar's Office. You must attempt registration each semester the program is offered following validation until admission into the clinical portion of the program.
5. Prior to entrance into the first clinical course, you must provide documentation of current or prior certification as a Nursing Assistant (CNA) in the State of Michigan or documentation of competency in basic nursing skills. This documentation must be submitted to the Nursing Discipline Office. Please refer to Basic Nursing Skills Guidelines for Admission Into Nursing Programs on www.delta.edu/nursing.
6. The Nursing Student Handbook contains additional information, requirements and specific program policies that you are required to comply with while enrolled in the nursing program. See www.delta.edu/nursing Nursing Student Handbook. You must comply with all Nursing Program Policies.
7. In addition to tuition and textbook costs, you must provide your own uniforms, clinic shoes, name tags and transportation to clinical agency settings, including possible parking charges. See www.delta.edu/nursing for program costs.
8. Full-time ADN track courses start each Fall and each Winter Semester with NUR 101AW. Part-time ADN Track courses start Fall semester only (NPT 102AW) with the program running year round. See website: www.delta.edu/nursing for more information. A student who designates their ADN track of choice will remain in that track for validation. There will be some flexibility between tracks (Full-time or Part-time) once the student is in the clinical sequence, but the student will need to go through the Nursing Review Board for approval based on the seating availability (see Nursing Student Handbook: www.delta.edu/nursing).
9. Program-Entry Health Requirements: You must submit an up-to-date complete physical examination report to the Nursing Office prior to entrance into the first clinical course. As a clinical student, you are required to have the Influenza vaccine and a TB skin test annually (A positive TB test will require a recent chest x-ray). The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam form or you must submit a signed waiver form. For persons born after 1957, documentation of immunization for MMR must be provided. Evidence of current (within ten years) Tetanus immunization status is required. You must submit all up-to-date health requirements to the Nursing Discipline Office prior to entrance into the first clinical course. CPR Training: You must have a CPR card, which must remain current throughout the clinical program. A photocopy of your certificate must be turned in to the Nursing Discipline Office prior to the start of classes. The CPR certification must include one and two person rescuer, child and infant rescuer, airway obstruction relief, and use of AED. Students with expired CPR certification, TB test, and/or physical exam will not be allowed to attend clinical.
10. Any student with a previous or current felony/misdemeanor conviction must inform the Nursing Program Coordinator of said conviction. Students should be aware that a felony/misdemeanor conviction may constitute grounds for ineligibility to sit for the Nursing Licensure examination. Students should be aware that the current licensure application form now requires that a criminal background check requiring fingerprinting be completed. Questions regarding licensure can be found at <http://www.michigan.gov/healthlicense> or be directed to the Michigan Board of Nursing at 517-335-0918.
11. All entering nursing students must be fingerprinted as part of health care agency requirements. Students will complete and sign a release form allowing Delta College Public Safety to complete a background check. Information about this process will be provided to the student at orientation. Results of the background check will be secured and kept confidential, but may be shared with clinical agencies when requested or as otherwise required by law. If results indicate a felony/misdemeanor conviction, the Nursing Program Coordinator will discuss the findings and the process with the student. A felony/misdemeanor conviction may delay or end the student's nursing education, delay graduation, or change the curriculum from which the student may graduate.
12. If a student in good standing or granted reentry into the program has a period of inactivity within a program track that exceeds 18 months, the student will need to revalidate for a program track and complete the entire clinical program.
13. A student can achieve PNE program completion if NUR 240W, and NUR 240LW; or NPT 260BW and NPT 260BLW are successfully completed.
14. Also see "Dual Degrees."
15. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
16. Delta College reserves the right to modify graduation requirements.

Nursing - General Management - Dual Associate Degree

Program Code: DE.30569

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
15/17	SUBTOTAL		

Electives (Choose 7/9 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/9	SUBTOTAL		
24	TOTAL CREDITS		

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.

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4. Credits required for a dual degree vary according to the chosen curricula.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Nursing RN Transition Track - Licensed Paramedic To RN - Associate in Applied Science

Program Code: AAS.20569

Delta College offers a special Associate Degree program track for currently Licensed Paramedics with a minimum of 1-year full-time equivalent work experience, within the three years preceding admission to the program.

The ADN program prepares you to function effectively as a member of the health care team. This program requires a strong commitment to critical thinking, team collaboration, leadership, and development of sound clinical knowledge and skills. As a graduate nurse, you will be qualified for employment in structured settings: for example, acute care hospitals, extended care facilities, nursing homes, and clinics. Upon graduating from this Program, you are eligible to take the Registered Nurse licensure exam. This Delta College program is accredited by the Accreditation Commission for Education in Nursing (ACEN), (3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; ph: 404-975-5000 , (<http://acenursing.org>) and approved by the Michigan Board of Nursing.

BIO 152, BIO 153 (or BIO 240,BIO 241), ENG 111 and PHM 285 must be completed with a minimum grade of B (3.0) and the remaining core courses with a minimum grade of C (2.0). Students must maintain a 2.5 GPA or higher in the core courses to validate for the program of their choice. All remaining General Education courses must be completed with a minimum grade of C (2.0) prior to graduation.

Core Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I AND	_____
BIO 153W	4	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
BIO 203W	4	General Microbiology	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
LW 222	3	The Science of Nutrition and Exercise	_____
MTH 117	2/0	Math for Allied Health or Competency Test	_____
PHL 215W	3	Health Care Ethics	_____
OR			
PHL 230	(2)	Bioethics for Nursing	_____
PHM 285	3	Pharmacology for Health Care Professionals	_____
26/29	SUBTOTAL		

General Education Courses

Course	Credits	Course Title	Completed
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 211W	4	General Psychology	_____
SOC 211	3	Principles of Sociology	_____
10/11	SUBTOTAL		

Basic Program Requirements: Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application" and be officially validated. See Validation Procedures in this catalog for the required process.

Semester 1:

Course	Credits	Course Title	Completed
NT 161W	2	Transition - Basic Principles of Adult Care	_____
NT 162W	2	Role and Function of the RN	_____
NT 160W	1	Transitional Skills and Concepts	_____
NT 160LW	1	Transitional Skills and Concepts Lab	_____
6	SUBTOTAL		

Semester 2:

Course	Credits	Course Title	Completed
NT 163W	3	Advanced Principles of Adult Care for the LPN/Licensed Paramedic	_____
NT 163LW	3	Advanced principles of Adult Care for the LPN/Licensed Paramedic Lab	_____
6	SUBTOTAL		

Semester 3:

Course	Credits	Course Title	Completed
NT 215W	2	Transition-Maternity Nursing	_____
NT 215LW	1	Transition-Maternity Nursing Lab	_____
NT 216W	2	Transition-Pediatric Nursing	_____
NT 216LW	1	Transition-Pediatric Nursing Lab	_____
NT 219W	2	Transition-Mental Health Nursing	_____
NT 219LW	1	Transition-Mental Health Nursing Lab	_____
9	SUBTOTAL		

Semester 4:

Course	Credits	Course Title	Completed
NUR 250W	4	Nursing Care and Management Throughout the Health Continuum	_____
NUR 250LW	5	Nursing Care and Management Throughout the Health Continuum Lab	_____
9	SUBTOTAL		

66/70 TOTAL CREDITS

1. Students must have completed BIO 152 and BIO 153 or BIO 240 and BIO 241 within the past ten years. If this time period is exceeded, an approved biology course must be taken to refresh this content. Please see the nursing program coordinator to determine which course(s) must be taken. It is recommended that BIO 203 also be current within ten years.
2. It is important that you check a semester ahead of time when you plan on validating for the nursing program to make sure course requirements have not changed. Updated information can be found through the nursing web page: www.delta.edu/nursing, calling the Counseling Office (989-686-9330) or the Nursing Discipline Office (989-686-9500 or 989-686-9274).
3. Prerequisite qualifications for validation are: (a) be admitted to Delta College, (b) provide official transcripts reflecting high school diploma or GED, and all other colleges or training institutions attended; (c) completion of BIO 152W and BIO 153W (or BIO 240 and BIO 241), ENG 111, and PHM 285 with a minimum grade of "B" (3.0); and completion of the remaining core courses with a "C" (2.0) minimum grade and a combined GPA of 2.5 or greater in core courses. All remaining General Education courses must be completed with a minimum grade of "C" prior to graduation from the program.
4. Due to limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" program. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Registrar's Office. You must attempt registration for clinical entry every winter semester following validation until admission into the clinical portion of the program.
5. The Nursing Student Handbook contains additional information, requirements and specific program policies that you are required to comply with while enrolled in the nursing program. See www.delta.edu/nursing Nursing Student Handbook. You must comply with all Nursing Program Policies.
6. In addition to tuition and textbook costs, you must provide your own uniforms, clinic shoes, name tags and transportation to clinical agency settings, including possible parking charges. See www.delta.edu/nursing for program costs.
7. Admission to the NT track is yearly winter semester. Only current licensed Paramedics have the option to take the Transition Track leading to RN licensure. Proof of current licensure as a Paramedic must be provided to the Registrar's office at the time of validation. A minimum of one-year full-time equivalent work experience within the three years preceding admission to the program, verified by the program coordinator, is required before entering into clinicals.
8. Program-Entry Health Requirements: You must submit an up-to-date complete physical examination report to the Nursing Office prior to entrance into the first clinical course. As a clinical student, you are required to have the Influenza vaccine and a TB skin test annually. The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. A positive TB test will require a recent chest x-ray. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam form or you must submit a signed waiver form. For persons born after 1957, documentation of immunization for MMR must be provided. Evidence of current (within ten years) Tetanus immunization status is required. You must submit all up-to-date health requirements to the Nursing Discipline Office prior to entrance into the first clinical course. CPR Training: You must have a CPR card, which must remain current throughout the clinical program. A photocopy of your certificate must be turned in to the Nursing Discipline Office prior to the start of classes. The CPR certification must include one and two person rescuer, child and infant rescuer, airway obstruction relief, and use of AED. Students with expired CPR certification, TB test, and/or physical exam will not be allowed to attend clinical.
9. Any student with a previous or current felony/misdemeanor conviction must inform the Nursing Program Coordinator of said conviction. Students should be aware that a felony/misdemeanor conviction may constitute grounds for ineligibility to sit for the Nursing Licensure examination. Students should be aware that the current licensure application form now requires that a criminal background check requiring fingerprinting be completed. Questions regarding licensure can be found at <http://www.michigan.gov/healthlicense> or be directed to the Michigan Board of Nursing at 517-335-0918.
10. All entering nursing students must be fingerprinted as part of health care agency requirements and for the Michigan Nursing Scholarship. Students will complete and sign a release form allowing Delta College Public Safety to complete a background check. Information about this process will be provided to the student at orientation. Results of the background check will be secured and kept confidential, but may be shared with clinical agencies when requested or as otherwise required by law. If results indicate a felony/misdemeanor conviction, the Nursing Program Coordinator will discuss

the findings and the process with the student. A felony/misdemeanor conviction may delay or end the student's nursing education, delay graduation, or change the curriculum from which the student may graduate.

11. If a student in good standing or granted reentry into the program has a period of inactivity within a program track that exceeds 18 months, the student will need to revalidate for a program track and complete the entire program.
12. Also see "Dual Degrees."
13. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
14. Delta College reserves the right to modify graduation requirements.

Nursing RN Transition Track - Licensed Practical Nurse To RN - Associate in Applied Science

Program Code: AAS.20568

Delta College offers a special Associate Degree program track for currently Licensed Practical Nurses (LPN) with a minimum of 1-year full-time equivalent work experience, within the three years preceding admission to the program.

The ADN program prepares you to function effectively as a member of the health care team. This program requires a strong commitment to critical thinking, team collaboration, leadership, and development of sound clinical knowledge and skills. As a graduate nurse, you will be qualified for employment in structured settings: for example, acute care hospitals, extended care facilities, nursing homes, and clinics. Upon graduating from this Program, you are eligible to take the Registered Nurse licensure exam. This Delta College program is accredited by the Accreditation Commission for Education in Nursing (ACEN), (3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; ph: 404-975-5000 , (<http://acenursing.org>) and approved by the Michigan Board of Nursing.

BIO 152W and BIO 153W (or BIO 240 and BIO 241), ENG 111, and PHM 285 with a minimum grade of "B" (3.0); and the remaining core courses with a "C" (2.0) minimum grade. Students must maintain a 2.5 GPA or higher in the core courses to validate for the program of their choice. All remaining General Education courses must be completed with a minimum grade of C (2.0) prior to graduation.

Core Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I AND	_____
BIO 153W	4	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
BIO 203W	4	General Microbiology	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
LW 222	3	The Science of Nutrition and Exercise	_____
MTH 117	2/0	Math for Allied Health or Competency Test	_____
PHL 215W	3	Health Care Ethics	_____
OR			
PHL 230	(2)	Bioethics for Nursing	_____
PHM 285	3	Pharmacology for Health Care Professionals	_____
26/29 SUBTOTAL			

General Education Courses

Course	Credits	Course Title	Completed
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 211W	4	General Psychology	_____
SOC 211	3	Principles of Sociology	_____
10/11 SUBTOTAL			

Basic Program Requirements: Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application" and be officially validated. See Validation Procedures in this catalog for the required process.

Semester 1:

Course	Credits	Course Title	Completed
NT 161W	2	Transition - Basic Principles of Adult Care	_____
NT 162W	2	Role and Function of the RN	_____
4 SUBTOTAL			

Recommended Courses:

Course	Credits	Course Title	Completed
NT 160LW	1	Transitional Skills and Concepts Lab	_____
NT 160W	1	Transitional Skills and Concepts	_____
2 SUBTOTAL			

Semester 2:

Course	Credits	Course Title	Completed
NT 163LW	3	Advanced principles of Adult Care for the LPN/Licensed Paramedic Lab	_____
NT 163W	3	Advanced Principles of Adult Care for the LPN/Licensed Paramedic	_____
6	SUBTOTAL		

Semester3:

Course	Credits	Course Title	Completed
NT 215W	2	Transition-Maternity Nursing	_____
NT 215LW	1	Transition-Maternity Nursing Lab	_____
NT 216W	2	Transition-Pediatric Nursing	_____
NT 216LW	1	Transition-Pediatric Nursing Lab	_____
NT 219W	2	Transition-Mental Health Nursing	_____
NT 219LW	1	Transition-Mental Health Nursing Lab	_____
9	SUBTOTAL		

Semester 4:

Course	Credits	Course Title	Completed
NUR 250W	4	Nursing Care and Management Throughout the Health Continuum	_____
NUR 250LW	5	Nursing Care and Management Throughout the Health Continuum Lab	_____
9	SUBTOTAL		
66/70	TOTAL CREDITS		

1. Students must have completed BIO 152 and BIO 153 or BIO 240 and BIO 241 within the past ten years. If this time period is exceeded, an approved biology course must be taken to refresh this content. Please see the nursing program coordinator to determine which course(s) must be taken. It is recommended that BIO 203 also be current within ten years.
2. It is important that you check a semester ahead of time when you plan on validating for the nursing program to make sure course requirements have not changed. Updated information can be found through the nursing web page: www.delta.edu/nursing, calling the Counseling Office (989-686-9330) or the Nursing Discipline Office (989-686-9500 or 989-686-9274).
3. Prerequisite qualifications for validation are: (a) be admitted to Delta College, (b) provide official transcripts reflecting high school diploma or GED, and all other colleges or training institutions attended; (c) completion of BIO 152W and BIO 153W (or BIO 240 and BIO 241), ENG 111, and PHM 285 with a minimum grade of "B" (3.0); and completion of the remaining core courses with a "C" (2.0) minimum grade and a GPA of 2.5 or greater in core courses. All remaining General Education courses must be completed with a minimum grade of "C" prior to graduation from the program.
4. Due to limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" program. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Registrar's Office. You must attempt registration each winter semester following validation until admission into the clinical portion of the program.
5. The Nursing Student Handbook contains additional information, requirements and specific program policies that you are required to comply with while enrolled in the nursing program. See www.delta.edu/nursing Nursing Student Handbook. You must comply with all Nursing Program Policies.
6. In addition to tuition and textbook costs, you must provide your own uniforms, clinic shoes, name tags and transportation to clinical agency settings, including possible parking charges. See www.delta.edu/nursing for program costs.
7. Admission to the NT track is yearly winter semester. NT 160 and NT 160L are strongly recommended for LPNs not in the acute care practice setting. Only current licensed LPNs have the option to take the Transition Track leading to RN licensure. Proof of current licensure must be provided to the Registrar's office at the time of validation. A minimum of one-year full-time equivalent work experience within the three years preceding admission to the program, verified by the program coordinator, is required before entering into clinicals. The PN graduate from the Delta College Practical Nursing program who wishes to bypass the minimum of one-year full-time equivalent work experience before entering into clinicals, may do so after meeting the following requirements:
 - a. Successfully graduate from the Delta College PN program
 - b. Completes all required pre-requisite courses for the ADN program validation
 - c. Maintains a GPA of 3.0 or higher throughout ADN pre-requisite courses and PN clinical courses
 - d. Successfully pass the NCLEX-PN
 - e. Apply for LPN to ADN validation after graduation from PN program
 - f. Register for LPN to ADN clinical entry
8. Program-Entry Health Requirements: You must submit an up-to-date complete physical examination report to the Nursing Office prior to entrance into the first clinical course. As a clinical student, you are required to have the Influenza vaccine and a TB skin test annually. The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. A positive TB test will require a recent chest x-ray. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam form or you must submit a signed waiver form. For persons born after 1957, documentation of immunization for MMR must be provided. Evidence of current (within ten years) Tetanus immunization status is required. You must submit all up-to-date health requirements to the Nursing Discipline Office prior to entrance into the first clinical course. CPR Training: You must have a CPR card, which must remain current throughout the clinical program. A photocopy of your certificate must be turned in to the Nursing Discipline Office prior to the start of classes. The CPR certification must include one and two person rescuer, child and infant rescuer, airway obstruction relief, and use of AED. Students with expired CPR certification, TB test, and/or physical exam will not be allowed to attend clinical.
9. Any student with a previous or current felony/misdemeanor conviction must inform the Nursing Program Coordinator of said conviction. Students

should be aware that a felony/misdemeanor conviction may constitute grounds for ineligibility to sit for the Nursing Licensure examination. Students should be aware that the current licensure application form now requires that a criminal background check requiring fingerprinting be completed. Questions regarding licensure can be found at <http://www.michigan.gov/healthlicense> or be directed to the Michigan Board of Nursing at 517-335-0918.

10. All entering nursing students must be fingerprinted as part of health care agency requirements. Students will complete and sign a release form allowing Delta College Public Safety to complete a background check. Information about this process will be provided to the student at orientation. Results of the background check will be secured and kept confidential, but may be shared with clinical agencies when requested or as otherwise required by law. If results indicate a felony/misdemeanor conviction, the Nursing Program Coordinator will discuss the findings and the process with the student. A felony/misdemeanor conviction may delay or end the student's nursing education, delay graduation, or change the curriculum from which the student may graduate.
11. If a student in good standing or granted reentry into the program has a period of inactivity within a program track that exceeds 18 months, the student will need to revalidate for a program track and complete the entire program.
12. Also see "Dual Degrees."
14. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
15. Delta College reserves the right to modify graduation requirements.

Office Professions - Office Skills Core - Certificate of Achievement

Program Code: CBZ.35293

Office professions continue to evolve along with new office automation and organizational restructuring. In many cases, office professionals have assumed new responsibilities and learned to operate a variety of office equipment. Most organizations employ office professionals to perform and coordinate office activities and to ensure that information is disseminated to staff and clients. Managers, professionals, and other support staff rely on them to keep administrative operations under control. Office professionals are responsible for a variety of clerical and administrative duties that are necessary to run and maintain organizations efficiently. They use personal computers to communicate electronically and to run spreadsheet, word processing, database management, desktop publishing, and graphics programs.

Core Courses

Course	Credits	Course Title	Completed
CST 106	1	Internet Foundations	_____
OAT 105W	1	Time Management	_____
OAT 151	3	Business Communication I	_____
OAT 160	3	Records Management	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 175	2	Electronic Calculation	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETING THE OFFICE PROFESSIONS - OFFICE ASSISTANT - ADVANCED CERTIFICATE.

13 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in OAT 151 and OAT 171.
2. CST 106 and OAT 171 are key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
3. Credit by examination is available for CST 106, OAT 151, OAT 171, and OAT 175.
4. Keyboarded assignments are required for OAT 151.
5. OAT 175 requires MATH LEVEL 2.
6. Students may earn credit hours with evidence of Certified Administrative Professional (CAP) certification. Consult Counseling & Advising Services for more information.
7. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available of OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for a waiver test.
8. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
9. Delta College reserves the right to modify graduation requirements.

Office Professions - Office Assistant - Advanced Certificate

Program Code: CBA.35291

Office professions continue to evolve along with new office automation and organizational restructuring. In many cases, office professionals have assumed new responsibilities and learned to operate a variety of office equipment. Most organizations employ office professionals to perform and coordinate office activities and to ensure that information is disseminated to staff and clients. Managers, professionals, and other support staff rely on them to keep administrative operations under control. Office professionals are responsible for a variety of clerical and administrative duties that are necessary to run and maintain organizations efficiently. They use personal computers to communicate electronically and to run spreadsheet, word processing, database management, desktop publishing, and graphics programs.

Core Courses

Course	Credits	Course Title	Completed
CST 105	1	Outlook	_____
CST 106	1	Internet Foundations	_____
CST 147	2	Electronic Media Communication	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
OAT 105W	1	Time Management	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
		OR	
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
		OR	
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
OAT 160	3	Records Management	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 172	3	Document Processing: Intermediate	_____
OAT 175	2	Electronic Calculation	_____
PHL 203W	3	Business Ethics	_____
		OR	
PHL 210W	(2)	Information Technology Ethics & Law	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETION OF AN OFFICE PROFESSIONS - OFFICE SPECIALIST - ADVANCED CERTIFICATE.

26/31 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in CST 151, CST 155, OAT 171, OAT 172, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113.
2. CST 105, CST 106, CST 147, CST 151, CST 155, OAT 171 and OAT 172 are key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
3. Credit by examination is available for CST 105, CST 151, OAT 151, OAT 171, OAT 172 and OAT 175.
4. Keyboarded assignments are required for OAT 151 and OAT 152.
5. OAT 175 requires MATH LEVEL 2.
6. Students may earn credit hours with evidence of Certified Administrative Professional (CAP) certification. Consult Counseling & Advising Services for more information.
7. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for a waiver test.
8. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
9. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Office Professions - Office Assistant - Advanced Certificate**

Office Professions - Office Assistant - Advanced Certificate

Total Program Cost (In District):	\$3,882.50
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Office Professions - Office Specialist - Advanced Certificate

Program Code: CBA.35292

Office professions continue to evolve along with new office automation and organizational restructuring. In many cases, office professionals have assumed new responsibilities and learned to operate a variety of office equipment. Most organizations employ office professionals to perform and coordinate office activities and to ensure that information is disseminated to staff and clients. Managers, professionals, and other support staff rely on them to keep administrative operations under control. Office professionals are responsible for a variety of clerical and administrative duties that are necessary to run and maintain organizations efficiently. They use personal computers to communicate electronically and to run spreadsheet, word processing, database management, desktop publishing, and graphics programs.

Required Courses

Course	Credits	Course Title	Completed
ACC 110	1	Introduction to QuickBooks	_____
ACE 101W	2	Career Professional Development I	_____
CST 103	1	Windows Foundations	_____
CST 105	1	Outlook	_____
CST 106	1	Internet Foundations	_____
CST 107	1	Microsoft Publisher	_____
CST 110	1	Web Content Development	_____
CST 147	2	Electronic Media Communication	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
OAT 105W	1	Time Management	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
		OR	
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
		OR	
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
OAT 155W	2	Editing	_____
OAT 160	3	Records Management	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 172	3	Document Processing: Intermediate	_____
OAT 175	2	Electronic Calculation	_____
OAT 285W	3	Office Technology	_____
MGT 153W	3	Introduction to Business	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____

THIS CERTIFICATE IS PART OF A LADDERED PROGRAM. CREDITS EARNED MAY BE APPLIED TOWARDS COMPLETIONN OF A OFFICE PROFESSIONS - ADMINISTRATIVE ASSISTANT - ASSOCIATE IN APPLIED ARTS DEGREE.

40/45 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in CST 107, CST 151, CST 155, OAT 171, OAT 172, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113.
2. ACE 101, CST 103, CST 105, CST 106, CST 107, CST 110, CST 147, CST 151, CST 257, OAT 171, OAT 172 and OAT 285 are key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."

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3. Credit by examination is available for CST 103, CST 105, CST 151, OAT 151, OAT 171, OAT 172 and OAT 175.
 4. Students must apply for placement in ACE 101 in semester previous to anticipated placement.
 5. Keyboarded assignments are required for OAT 151 and OAT 152.
 6. On-site visitations required in OAT 285.
 7. OAT 175 requires MATH LEVEL 2.
 8. OAT 285 is a fall-only class.
 9. Students may earn credit hours with evidence of Certified Administrative Professional (CAP) certification. Consult Counseling & Advising Services for more information.
 10. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for a waiver test.
 11. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 12. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Office Professions - Office Specialist -Advanced Certificate**

Office Professions - Office Specialist -Advanced Certificate

Total Program Cost (In District):	\$6,034.30
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Office Professions - Administrative Assistant - Associate in Business Studies

Program Code: ABS.10296

Office professions continue to evolve along with new office automation and organizational restructuring. In many cases, office professionals have assumed new responsibilities and learned to operate a variety of office equipment. Most organizations employ office professionals to perform and coordinate office activities and to ensure that information is disseminated to staff and clients. Managers, professionals, and other support staff rely on them to keep administrative operations under control.

Office professionals are responsible for a variety of clerical and administrative duties that are necessary to run and maintain organizations efficiently. They use personal computers to communicate electronically and to run spreadsheet, word processing, database management, desktop publishing, and graphics programs.

Administrative assistants perform fewer clerical tasks than lower-level office professionals. In addition to receiving visitors, arranging conference calls, and answering letters, they may handle more complex responsibilities such as conducting research, preparing statistical reports, and supervising other clerical staff.

General Education Courses

Course	Credits	Course Title	Completed
LWA ---	1	Any 1 Credit LWA Course AND	_____
LW 220W	1	Lifelong Wellness	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I AND	_____
OAT 152	3	Business Communication II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 112	(3)	College Composition II	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
ENG 111	(3)	College Composition I AND	_____
ENG 113	(3)	Technical Communication	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
16/21	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
ACC 110	1	Introduction to QuickBooks	_____
ACE 101W	2	Career Professional Development I OR	_____
ACE ---	(2-6)	Academic Career Experience	_____

CST 103	1	Windows Foundations	_____
CST 105	1	Outlook	_____
CST 106	1	Internet Foundations	_____
CST 107	1	Microsoft Publisher	_____
CST 110	1	Web Content Development	_____
CST 147	2	Electronic Media Communication	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
MGT 153W	3	Introduction to Business	_____
OAT 105W	1	Time Management	_____
OAT 155W	2	Editing	_____
OAT 160	3	Records Management	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 172	3	Document Processing: Intermediate	_____
OAT 175	2	Electronic Calculation	_____
OAT 268	3	Administrative Office Practices	_____
OAT 273	3	Document Processing: Advanced	_____
OAT 285W	3	Office Technology	_____

43/49 SUBTOTAL

62/70 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in CST 107, CST 151, CST 155, OAT 171, OAT 172, OAT 268, OAT 273, OAT 151 and OAT 152 or ENG 111 and ENG 112 or ENG 111 and ENG 113
2. ACE 101, CST 103, CST 105, CST 106, CST 107, CST 110, CST 147, CST 151, CST 155, OAT 171, OAT 172, OAT 268, OAT 273 and OAT 285 are Key courses and must be completed within 5 years of completing the certificate. Failure to complete within the stated time frame will require you to repeat this course. See section 4 of the College Catalog "Academic Policies/Graduation Requirements."
3. If you are planning to transfer, you should take ACC 211.
4. Credit by examination is available for CST 103, CST 105, CST 151, OAT 151, OAT 171, OAT 172, OAT 175 and MGT 153.
5. Students must apply for placement in ACE 101 in semester previous to anticipated placement.
6. Keyboarded assignments are required for OAT 151 and OAT 152.
7. On-site visitations required in OAT 285.
8. OAT 175 requires MATH LEVEL 2.
9. OAT 285 is a fall-only class.
10. OAT 268 is a winter-only class. OAT 151, OAT 172, CST 147, CST 151, CST 257 with a C (2.0) grade minimum are the prerequisites for OAT 268.
11. Students may earn credit hours with evidence of Certified Administrative Professional (CAP) certification. Consult Counseling & Advising Services for more information.
12. OAT 171 Document Processing: Beginning requires OAT 170 Keyboarding with a "B" grade or better. A keyboarding waiver test is available for OAT 170. Contact the BIT Division office, 989.686.9127, to arrange for a waiver test.
13. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
14. Delta College reserves the right to modify graduation requirements.

Personal Trainer - Advanced Certificate

Program Code: CSA.35742

Upon completion of the Personal Trainer Certificate Program, you will have the knowledge and skills necessary to effectively assist apparently healthy individuals and those with controlled diseases in exercising safely and achieving higher levels of fitness or athletic performance. This program will provide the knowledge and practical experience in all of the following areas: client consultation and assessment, fitness program development, exercise techniques, safety procedures, and legal issues. Upon completion of this program, you will be eligible to sit for the American Council on Exercise (ACE) certification exam or the National Strength and Conditioning Association (NSCA) Certified Personal Trainer exam.

Basic Program Requirements

Course	Credits	Course Title	Completed
BIO 101W	4	Introduction to Anatomy And Physiology OR	_____
BIO 152W	(4)	Human Anatomy & Physiology I OR	_____
BIO 140W	(5)	Essentials Of Human Anatomy & Physiology	_____
COM 202W	3	Oral Communication for Managers	_____
HSC 140	2	Basic Medical Emergencies OR	_____
LWT 165	(1)	HeartSaver First Aid with CPR AND	_____
LWT 170	(1)	BLS for the Health Care Provider	_____
LWT 210	3	Nutrition: The Science of Optimal Living OR	_____
LW 222	(3)	The Science of Nutrition and Exercise	_____
LWT 214	2	Techniques and Applications of Health Fitness Equipment	_____
LWT 230	3	Theory of Strength and Conditioning	_____
LWT 240	4	Health Fitness Instructor/Personal Trainer	_____
LWT 251	4	Exercise Physiology	_____
LWT 255	3	Health Fitness Management and Promotion	_____
LWA ---	1	Lifelong Wellness Elective from Category A	_____
LWA ---	1/1.5	Lifelong Wellness Elective from Category B	_____

30/31.5 SUBTOTAL

LWA Electives - Category A (Choose from list below for Basic Program Requirements)

Course	Credits	Course Title	Completed
LWA 101	1	Fitness for Life	_____
LWA 106	1	Athletic Conditioning	_____
LWA 108	1	Weight Training	_____
LWA 111	1	Circuit Training	_____

LWA Electives - Category B (Choose from list below for Basic Program Requirements)

Course	Credits	Course Title	Completed
LWA 151	1	Kick Boxing	_____
LWA 152	1.5	Astanga Yoga	_____
LWA 154W	1	BOSU Ball Training	_____
LWA 156W	1	Stability Ball Training	_____
LWA 158	1	Pilates	_____

30/31.5 TOTAL CREDITS REQUIRED FOR CERTIFICATE

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Personal Trainer - Advanced Certificate**

Personal Trainer - Advanced Certificate

Total Program Cost (In District):	\$4,847.30
On-Time Completion Rate:	66.67%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Physical Therapist Assistant - Associate in Applied Science

Program Code: AAS.20573

Delta's program is for the training of Physical Therapist Assistants only. If you are planning to become a Physical Therapist, you should follow the Pre-Physical Therapy program guide and meet with a counselor.

As a Physical Therapist Assistant, you will work under the direction and supervision of Physical Therapists. Such settings include: acute care hospitals, rehabilitation centers, school systems, nursing homes, home care, out-patient facilities, private clinics, and specialty clinics. As a graduate of this program, you will be able to carry out patient treatment programs designed by the Physical Therapist that utilize heat, cold, light, sound, massage, therapeutic exercise, aquatics, manual therapy, and rehabilitation procedures. This program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE).

Option A - Regular Track (Students can take and complete these validation courses at their own pace.)

General Education Prerequisite Courses-Option A

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials of Human Anatomy & Physiology	_____
OR			
BIO 152W	(4)	Human Anatomy & Physiology I AND	_____
BIO 153W	(4)	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
COM 114W	3	Interpersonal Communication	_____
ENG 111	3	College Composition I	_____
HSC 105	2	Medical Terminology	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology OR	_____
PSY 211W	(4)	General Psychology	_____

19/24 SUBTOTAL

Option B - Accelerated Track (Students must take these validation courses in one semester.)

General Education Prerequisite Courses-Option B

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	_____
COM 114W	3	Interpersonal Communication	_____
ENG 111	3	College Composition I	_____
HSC 105	2	Medical Terminology	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology	_____

19/20 SUBTOTAL

Prior to attempting to register to begin the clinical sequence, you must complete the above courses and the "Validation Application." See Validation Procedures in this catalog for the required process.

Clinical Program Course Sequence

Semester 1 (Fall)

Course	Credits	Course Title	Completed
ENG 113	3	Technical Communication	_____
LW 206A	1	Occupational Wellness 1	_____
PTA 101	2	Applied Clinical Anatomy I	_____
PTA 101LW	1	Applied Clinical Anatomy I Lab	_____
PTA 105	2	Physical Agents	_____
PTA 105LW	1	Physical Agents I Lab	_____
PTA 110	2	Fundamentals of Patient Mobility	_____
PTA 110L	1	Fundamentals of Patient Mobility Lab	_____
13	SUBTOTAL		

Semester 2 (Winter)

Course	Credits	Course Title	Completed
LWA 206B	0.5	Occupational Wellness 2	_____
PTA 102	2	Clinical Neuroanatomy	_____
PTA 120	2	Orthopedic Rehabilitation	_____
PTA 120L	1	Orthopedic Rehabilitation Lab	_____
PTA 121	1	Human Development I - Topics in Pediatrics	_____
PTA 123W	2.5	Clinical Medicine	_____
PTA 123LW	0.5	Clinical Medicine Lab	_____
PTA 124	2	PTA Clinic I	_____
PTA 125	1	Applied Clinical Anatomy II	_____
PTA 125LW	1	Applied Clinical Anatomy II Lab	_____
13.5	SUBTOTAL		

Semester 3 (Fall)

Course	Credits	Course Title	Completed
LWA 206C	0.5	Occupational Wellness 3	_____
PTA 205	0.5	Physical Agents II	_____
PTA 205L	0.5	Physical Agents II Lab	_____
PTA 209	0.5	Fundamentals of Pediatric Rehabilitation	_____
PTA 209L	0.5	Fundamentals of Pediatric Rehabilitation Lab	_____
PTA 210	2	Neuro-Rehabilitation Techniques	_____
PTA 210LW	1	Neuro-Rehabilitation Techniques Lab	_____
PTA 213	0.5	Orthotics and Prosthetics	_____
PTA 213L	0.5	Orthotics and Prosthetics Lab	_____
PTA 214W	3	PTA Clinic 2	_____
PTA 216W	1	Introduction to Evidence Based Practice	_____
PTA 222	2	Human Development II - Topics in Geriatric	_____
12.5	SUBTOTAL		

Semester 4 (Winter)

Course	Credits	Course Title	Completed
PTA 221	2	Clinical Seminar	_____
PTA 224	9	PTA Clinic 3	_____
PTA 225	1	Topics in Manual Therapy	_____
12	SUBTOTAL		

70/75 Total Credits Required for Associates Degree (OPTION A)**70/71 TOTAL CREDITS REQUIRED FOR ASSOCIATES DEGREE (OPTION B)**

1. Prerequisite qualifications for validation are: high school graduate or GED equivalent; provide transcripts from high school and all other colleges attended; be admitted to Delta College; completion with a B (3.0) minimum grade in: BIO 140 or BIO 152 and BIO 153 or BIO 240 and BIO 241; and completion with a "C" (2.0) minimum grade in ENG 111, HSC 105, PSY 101 or PSY 211, and COM 114, and complete 40 hours of observation time

to apply for validation.

2. Any Approved American Government, POL ---, course must be completed with a "C" (2.0) minimum grade prior to graduation but is not required for validation.
3. Students must have completed BIO 140 or BIO 152/BIO 153W or BIO 240/BIO 241 within the past ten years. If this time period is exceeded, an approved biology course must be taken to refresh this content. Please see the PTA Program Coordinator to determine which course(s) must be taken.
4. An observation series is required prior to validation. Students must observe, at a minimum, two different PT's or PTA's performing their skills in two different clinical practice sites for a minimum of 40 hours. These observations must be documented on the Observation Form which is available on the PTA program website or can be picked up in the Counseling Office. These forms must be stamped at the Registrar's office at the time the validation application is turned in. Once the form has been stamped it must be turned in to the PTA Program Coordinator.
5. Students may complete the program in five (5) semesters by taking all General Education courses in Option B during one semester.
6. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation".
7. Registration and acceptance into the PTA program occurs each Fall. Anticipated enrollment capacities can be found on the validation chart. The procedures for application into the PTA Program are in the guidelines for validation. See Validation Procedures in this catalog for required process.
8. Upon admission to the program, you must have a complete physical examination including a negative TB test or a physician's release form annually.
9. Current CPR for Health Care Provider certification is required upon successful enrollment in the PTA program. Current CPR certification must be maintained throughout the program.
10. Proof of Hepatitis B vaccination or signed waiver and proof of current flu vaccination is required for admission to clinical sequence.
11. Criminal background checks are required to participate in clinical experiences. There is a fee for the criminal background check. Any student with a previous or current felony/misdemeanor conviction must inform the PTA Program Coordinator of said conviction. Students should be aware that a felony/misdemeanor conviction may constitute grounds for ineligibility to sit for the PTA licensure examination. Students should be aware that the current licensure application form now requires that a criminal background check requiring fingerprinting be completed. Questions regarding licensure can be found at <http://www.michigan.gov/healthlicense>
12. Physical Therapist Assistant courses are offered day and evening hours and must be taken in the sequence shown. There may be occasional weekend courses, as well, that are mandatory.
13. In addition to tuition, fees, and textbook costs, you must purchase appropriate lab attire, name tags, provide your transportation to clinical settings, possible hospital parking charges, and field trips.
14. ENG 113 Technical Communication must be taken while in the PTA program. If ENG 113 is taken prior to entering the PTA program the student will need to repeat the course. ENG 113 taken within the program will focus on writing skill/requirements within the PTA discipline.
15. You must achieve a minimum C (2.0) grade in each Physical Therapist Assistant course to be eligible to continue in the program.
16. You need to be aware that clinical hospital assignments may be outside the local area. Students must be prepared to commute up to two hours for at least one rotation.
17. Student Reentry Procedures are printed in the handbook given to all clinical students.
18. Also see "Dual Degrees."
19. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
20. Delta College reserves the right to modify graduation requirements.

Physical Therapist Assistant - General Management - Dual Associate Degree

Program Code: DE.30575

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	4	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
16/17		SUBTOTAL	

Electives (Choose 7/8 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/8		SUBTOTAL	
24		TOTAL CREDITS	

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total

24 credits.

3. Student re-entry procedures are printed in the handbook given to all clinical students.
4. Credits required for a dual degree vary according to the chosen curricula.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Practical Nurse - Advanced Certificate

Program Code: CHA.35563

The PN program of study prepares you to function effectively as a member of the health care team under the direction of the RN and/or the physician. Upon successful completion of the program, you will receive an Advanced Certificate and are eligible to take the Practical Nursing licensure exam. The PN clinical coursework is an intense full-time three semesters (Fall, Winter, Spring/Summer) that requires college-level reading, writing, and applied math skills. This program is approved by the Michigan Board of Nursing. You must have a GPA of 2.5 or higher in the following core courses in order to qualify for validation.

Core Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I AND	_____
BIO 153W	4	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
ENG ---	3	Any Approved College Composition I Course	_____
MTH 117	0/2	Math for Allied Health or Math Competency Test	_____
HSC 105	2	Medical Terminology	_____
PHM 285	3	Pharmacology for Health Care Professionals	_____
16/18 SUBTOTAL			

Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application" and be officially validated. See validation procedures in this catalog for the required process.

Clinical Program Requirements

Course	Credits	Course Title	Completed
PNE 121W	6	Fundamentals of Practical Nursing AND	_____
PNE 121LW	3	Fundamentals of Practical Nursing Lab	_____
PNE 122W	6	Care of the Adult I AND	_____
PNE 122LW	3	Care of Adult I Lab	_____
PNE 123W	2	Care of the Adult II AND	_____
PNE 123LW	2	Care of Adult II Lab	_____
PNE 125W	3	Basic Maternal Child AND	_____
PNE 125LW	1	Basic Maternal Child Lab	_____
26 SUBTOTAL			

42/44 TOTAL CREDITS REQUIRED/CERTIFICATE

- Students must have completed BIO 152 and BIO 153 or BIO 240 and BIO 241 within the past ten years. If this time period is exceeded, an approved biology course must be taken to refresh this content. Please see the nursing program coordinator to determine which course(s) must be taken.
- It is important that you check a semester ahead of time when you plan on validating for the nursing program to make sure course requirements have not changed. Updated information can be found through the nursing web page: www.delta.edu/nursing, calling the Counseling Office (989-686-9330) or the Nursing Discipline Office (989-686-9500).
- Prerequisite qualifications for validation are: (a) be admitted to Delta College, (b) provide transcripts reflecting high school diploma or GED, and all other colleges or training institutions attended, (c) completion of core courses with a grade of "C" or better and an overall GPA of 2.5 or greater for validation. Math competency exam is offered through the Assessment/Testing Office in D-101. All listed requirements must be completed for graduation. A minimum prerequisite of Reading Level 4 is required for validation.
- Due to the limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" program. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Registrar's office. You must attempt registration for clinical entry each fall semester following validation until admission into the clinical portion of the program.
- Prior to entrance into the first clinical course, you must provide documentation of current or prior certification as a Nursing Assistant (CNA) in the State of Michigan or documentation of competency in Basic Nursing Skills. Please refer to Basic Nursing Skills guidelines for admission into Nursing programs at www.delta.edu/nursing. Prior certification requires documentation of specific abilities from employers. This documentation must be submitted to the Nursing Discipline Office (F226).
- The Nursing Student Handbook contains additional information, requirements and specific program policies that you are required to comply with while enrolled in the nursing program. See www.delta.edu/nursing Nursing Student Handbook. You must comply with all Nursing Program Policies.
- In addition to tuition and textbook costs, you must provide your own uniforms, clinic shoes, name tags and transportation to clinical agency settings, including possible parking charges. See www.delta.edu/nursing for program costs.
- First semester PNE nursing courses (PNE 121W & PNE 121LW) are offered each Fall Semester. With successful progression, the student will complete the program the following August. If a student graduates from the Delta PN program and would like to pursue the transition track of the ADN program, there are two options: One option is the PN graduate must pass the NCLEX-PN exam and work full time as a LPN for a minimum of one year; or if the PN student carries a GPA of 3.0 or higher throughout the PN program (including prerequisites) and has all pre-requisites for the

- ADN program completed, the Delta PN graduate who is successful on their NCLEX-PN exam, may validate for the LPN to ADN Transition track and attempt registration for the next Transition entry class the following Winter. Refer to Nursing RN Transition Track for additional program information.
9. Program-Entry Health Requirements: You must submit an up-to-date complete physical examination report to the Nursing Office prior to entrance into the first clinical course. As a clinical student, you are required to have the Influenza vaccine and a TB skin test annually. (A positive TB test will require a recent chest x-ray). The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam form or you must submit a signed waiver form. For persons born after 1957, documentation of immunization for MMR must be provided. Evidence of current (within ten years) Tetanus immunization status is required. You must submit all up-to-date health requirements to the Nursing Discipline Office prior to entrance into the first clinical course. CPR Training: You must have a CPR card, which must remain current throughout the clinical program. A photocopy of your certificate must be turned in to the Nursing Discipline Office prior to the start of classes. The CPR certification must include one and two person rescuer, child and infant rescuer, airway obstruction relief, and use of AED. Students with expired CPR certification, TB test, and/or physical exam will not be allowed to attend clinical.
 10. Any student with a previous or current felony/misdemeanor conviction must inform the Nursing Program Coordinator of said conviction. Students should be aware that a felony/misdemeanor conviction may constitute grounds for ineligibility to sit for the Nursing Licensure examination. Students should be aware that the current licensure application form now requires that a criminal background check including fingerprinting be completed. Questions regarding licensure can be found at <http://www.michigan.gov/healthlicense> or be directed to the Michigan Board of Nursing at 517-335-0918.
 11. All entering nursing students must be fingerprinted as part of health care agency requirements. Students will complete and sign a release form allowing Delta College Public Safety to complete a background check. Information about this process will be provided to the student at orientation. Results of the background check will be secured and kept confidential, but may be shared with clinical agencies when requested or as otherwise required by law. If results indicate a felony/misdemeanor conviction, the Nursing Program Coordinator will discuss the findings and the process with the student. A felony/misdemeanor conviction may delay or end the student's nursing education, delay graduation, or change the curriculum from which the student may graduate.
 12. If a student in good standing (2.0 or better) or granted reentry into the program has a period of inactivity within a program track that exceeds 18 months, the student will need to revalidate for a program track and complete the entire clinical program.
 13. A person can achieve PNE program completion if NUR 240W and NUR 240LW, or NPT 260AW and NPT 260ALW are successfully completed.
 14. Certificate Requirements: Earn a minimum of two-thirds of program credits or 24 credits at Delta College, whichever is less. Note that the nursing program handbook requires at least two semesters of the clinical program be taken at Delta College in order to graduate from the nursing program.
 15. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 16. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Practical Nurse - Advanced Certificate**

Practical Nurse - Advanced Certificate

Total Program Cost (In District):	\$7,015.40
On-Time Completion Rate:	63.64%
Program Job Placement Rate:	Not Required
Median Loan Dept:	\$9,921.00

Professional Studies In Office Administration - Certificate of Achievement

Program Code: CBZ.35297

The Professional Studies in Office Administration Certificate was created for the individual who is already employed in business and wants to apply new learning to the workplace. It provides the employed individual the opportunity to upgrade present office skills and acquire new competencies. This certificate offers a flexible academic framework for professional development through a "menu" approach to course selection. Choose 3-9 credits from each category for a total of 18 credits.

Category 1: Communications

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
COM 114W	3	Interpersonal Communication	_____
COM 202W	3	Oral Communication for Managers	_____
CST 135	1	Help Desk Fundamentals	_____
ENG 113	3	Technical Communication	_____
ENG 195W	2	Library Research Skills OR	_____
LIB 195W	(2)	Library Research Skills	_____
MGT 145	3	Principles of Sales	_____
OAT 151	3	Business Communication I	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics	_____
PHL 210W	2	Information Technology Ethics & Law	_____
PSY 101W	3	Applied Psychology	_____
3/9	SUBTOTAL		

Category 2: Office/Management

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers	_____
ACC 211	4	Principles of Financial Accounting	_____
ACC 212	4	Principles of Managerial Accounting	_____
ACC 233	3	Managerial Cost Accounting	_____
ENT 131W	3	Entrepreneurship/Small Business Management I	_____
MGT 110	3	Business Mathematics	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
MGT 265	3	International Business	_____
OAT 105W	1	Time Management	_____
OAT 155W	2	Editing	_____
OAT 160	3	Records Management	_____
OAT 175	2	Electronic Calculation	_____
OAT 268	3	Administrative Office Practices	_____
3/9	SUBTOTAL		

Category 3: Technology

Course	Credits	Course Title	Completed
ACC 110	1	Introduction to QuickBooks	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 106	1	Internet Foundations	_____
CST 107	1	Microsoft Publisher	_____
CST 110	1	Web Page Development Using HTML	_____
CST 123	1	Windows Operating System	_____
CST 133W	4	Computer Concepts & Competencies	_____
CST 134	3	Micro Computers in Business Using MS Office	_____
CST 147	2	Electronic Media Communication	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft Excel	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 210	2	Advanced Web Page Development	_____
CST 257	3	Database MS Access	_____
OAT 171	3	Document Processing: Beginning	_____
OAT 172	3	Document Processing: Intermediate	_____
OAT 273	3	Document Processing: Advanced	_____
OAT 285W	3	Office Technology	_____
3/9	SUBTOTAL		
18	TOTAL CREDITS REQUIRED		

1. Many classes have prerequisites. Check the current Delta College catalog or consult with the Counseling & Advising Center for the proper sequencing of courses.
2. If you are interested in completing other certificates or degrees at Delta College, consult with the Counseling & Advising Center for help with your course selection.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Quality Assurance - Certificate of Achievement

Program Code: CTZ.35877

Quality professionals work within the quality assurance function to ensure that customer requirements are met. They work with measurements, statistics, and other elements within the quality assurance system. Problem solving and verification activities are also an important function of the quality professional's responsibility. Information and skills are needed by today's quality professional to ensure the quality function is being performed correctly. This certificate is designed to ensure that quality professionals in various businesses and industries acquire the information and skills needed to be effective.

Basic Program Requirements

Course	Credits	Course Title	Completed
MTH 208W	3	Elementary Statistics	_____
QA 110	1	Quality Problem Solving Tools	_____
QA 120	2	Quality & Productivity Mgmt.	_____
QA 124	3	Quality Systems I	_____
QA 126	3	Quality Systems II	_____
QA 131	2	Quality Auditing	_____
QA 140	3	Measurement Systems	_____
QA 191	1	Quality Teamwork	_____
QA 244	3	Statistical Process Control	_____
21	SUBTOTAL		
21	TOTAL CREDITS REQUIRED FOR CERTIFICATE		

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Quality Management - Certificate of Achievement

Program Code: CTZ.35878

Upon completion of the Quality Management Certificate, you will have the knowledge and skills necessary to effectively plan and implement an internal quality system. In today's competitive business environment, a system to ensure that the customer's needs are identified and requirements are met is a business function. Quality Assurance professionals must maintain an effective quality system no matter what business, industry, organization or governmental body they work for. This certificate is designed for those people working in various fields and occupations who are responsible for the management of the quality assurance function.

Basic Program Requirements

Course	Credits	Course Title	Completed
QA 120	2	Quality & Productivity Mgmt.	_____
QA 124	3	Quality Systems I	_____
QA 126	3	Quality Systems II	_____
QA 131	2	Quality Auditing	_____
QA 191	1	Quality Teamwork	_____
11	SUBTOTAL		
11	TOTAL CREDITS REQUIRED FOR CERTIFICATE		

1. A grade of "C" (2.0) or higher is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Radiography - Associate in Applied Science

Program Code: AAS.20545

Working under the supervision of a physician, Radiographers (also called Radiologic Technologists) assist in patient care and diagnosis through the use of x-ray equipment to take images of the internal structures of a patient's body. Radiographers position the patient; provide appropriate patient care; determine and set exposure factors; expose and process the required number of radiographs; prepare and help administer chemical mixtures called contrast media; assist in fluoroscopic examinations; and use radiation protection devices and techniques. Upon successfully completing this program, you are eligible to take the national certification examination administered by the American Registry of Radiologic Technologists. This program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT) 20 N. Wacker Drive Suite 2850, Chicago, IL 60606-3182; ph: 312-704-5300; fx: 312-704-5304; www.jrcert.org.

General Education Courses

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	_____
OR			
BIO 152W	(4)	Human Anatomy & Physiology I AND	_____
BIO 153W	(4)	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG 113	3	Technical Communication	_____
HSC 105	2	Medical Terminology	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology OR	_____
PSY 211W	(4)	General Psychology	_____
19/24	SUBTOTAL		

Prior to attempting to register to begin the clinical sequence, you must complete the above courses and the "Validation Application." See Validation Procedures in this catalog for the required process.

Clinical Course Sequence:

First Semester (Fall)

Course	Credits	Course Title	Completed
RAD 100	2	Basic Science of Medical Imaging	_____
RAD 105	4	Fundamentals of Radiography	_____
RAD 108W	3	Introduction to Healthcare and Patient Care	_____
RAD 130	2.5	Radiographic Procedures 1	_____
LW 206A	1	Occupational Wellness 1	_____
12.5	SUBTOTAL		

Second Semester (Winter)

Course	Credits	Course Title	Completed
RAD 110	2.5	Principles of Radiographic Exposure	_____
RAD 120W	2	Principles of Radiation Biology and Protection	_____
RAD 122	1	Digital Imaging	_____
RAD 150	2.5	Radiographic Procedures 2	_____
RAD 205W	1	Pharmacology In Imaging	_____
RAD 210W	1	Pathology in Radiography	_____
RAD 215	2.5	Radiographic Procedures 3	_____
LWA 206B	.5	Occupational Wellness 2	_____
LWA 206C	.5	Occupational Wellness 3	_____
13.5	SUBTOTAL		

Third Semester (Spring)

Course	Credits	Course Title	Completed
RAD 135	6	Clinical Education 1	_____
RAD 140W	1	Clinical Seminar 1	_____
RAD 230	1	Quality Improvement in Imaging	_____
RAD 235	2.5	Radiographic Procedures 4	_____
RAD 264	1	Cross Sectional Imaging	_____
11.5	SUBTOTAL		

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
RAD 160	10	Clinical Education 2	_____
RAD 165W	2	Clinical Seminar 2	_____
RAD 212	1	Advanced Imaging Equipment	_____
13	SUBTOTAL		

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
RAD 220	10	Clinical Education 3	_____
RAD 225W	2	Clinical Seminar 3	_____
RAD 258W	2	Radiography Capstone Seminar	_____
14	SUBTOTAL		

83/88.5 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. Approximately 18 students will be accepted to begin each fall semester for Radiography courses. After successfully completing the prerequisite qualifications, completing an online validation session, and submitting a "Validation Application for Occupational Programs," you will be eligible to register. See Validation Procedures in this catalog for the required process.
2. Program qualifications include: (a) high school graduate or GED equivalent; (b) be admitted to Delta College; (c) provide transcripts from high school and all other colleges attended.
3. Validation requirements: (a) LEVEL 4 READING competency; (b) LEVEL 4 MATH Competency. Math courses are to have been taken within the last five years. (c) Successful completion of each of the prerequisite courses with a grade of "C" (2.0) or higher. A minimum grade of "B" (3.0) is required for any BIO course accepted for validation.
4. Other program requirements: (a) Current CPR certification (for the Professional Rescuer) is required for admission to the clinical sequence. CPR currency must be maintained throughout the program. (b) Submit a completed Health Appraisal Form which requires a negative TB test. (c) Submit evidence of Hepatitis B immunization OR signed waiver form provided during orientation. (d) Complete and sign a release form allowing Delta College Public Safety to complete a background check.
5. If you are anticipating pursuing a Baccalaureate Degree BIO 152 and BIO 153 are required for most transfer programs.
6. Radiography Program courses are offered day and evening hours and must be taken together in the sequence shown. Clinical Education courses are conducted primarily during daytime hours; however, off-shifts (second and weekend shifts) will be assigned to meet course objectives.
7. You must achieve a "C" (2.0) minimum grade in each Radiography course to be eligible to continue in and graduate from the Program. You must comply with all Radiography Program Progression and Retention Policies (copies available from the Health Programs counselor or program faculty.)
8. In addition to tuition, fees, and textbook costs, you must purchase uniforms, nametags, and clinic shoes; provide your transportation to clinic settings; pay for meals, parking fees, and any medical treatment that may become necessary.
9. Any student with a previous or current felony or misdemeanor conviction must inform the Radiography Program Coordinator and/or Radiography counselor of said conviction. Students should be aware that a felony or misdemeanor conviction may constitute grounds for ineligibility to sit for the American Registry of Radiologic Technologists national certifying examination. Students should be aware that the current ARRT application form requests that the following information be reported: Conviction of a felony or misdemeanor; Misdemeanor speeding convictions related to alcohol or

drug use; Pleas of guilty; Plea of nolo contendere; Withheld adjudication; Suspended sentence; Military court-martial. Questions may be directed to the American Registry of Radiologic Technologists, (651) 687-0048, or www.arrt.org.

10. Agency contracts with health care institutions may prohibit students with felony or misdemeanors to enter the facility and thus possibly prohibit course completion and progression in the program.
11. See also "Dual Degrees."
12. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
13. Delta College reserves the right to modify graduation requirements.

Radiography - General Management - Dual Associate Degree

Program Code: DE.30546

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
15/17	SUBTOTAL		

Electives (Choose 7/9 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/9	SUBTOTAL		
24	TOTAL CREDITS		

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.

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4. Credits required for a dual degree vary according to the chosen curricula.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Residential Construction - Advanced Certificate

Program Code: CTA.35889

The Certificate Program is designed to prepare you for jobs in rough carpentry and house framing with the skills you have learned in such areas as: job specifications and drawings, building materials, use of woodworking and surveying tools, cost estimations, concrete work, and exterior finishing. Completion of this program preempts years of apprenticeship in the construction field. You may become self-employed or find employment with a contractor or in a building supply center.

In addition to skills gained from courses completed in the Residential Construction Certificate Program, students completing the Associate degree will have learned construction techniques in interior trim, cabinet making and installation, equipment installation, and interior finishing. The Program also offers the breadth of education necessary for a successful self-employed business or lumberyard management and has the support of the home builders association.

Core Courses

Course	Credits	Course Title	Completed
RC 101	3	Construction Print Interpretation	_____
RC 104	3	Construction Lab	_____
RC 106	3	Concrete and Foundations	_____
RC 108	2	Construction Safety	_____
RC 114	4	Framing Square	_____
RC 200	3	Construction Contracting Rules and Regulations	_____
RC 201	4	Rough and Outside Framing	_____
RC 203	3	Residential CAD	_____
RC 204	4	Inside Finishing and Hardware	_____

29 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. RC 201 Rough and Outside Framing (Fall semester), and RC 204 Inside Finishing and Hardware (Winter semester) are to be taken in sequence in the same academic year.
3. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
4. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Residential Construction - Advanced Certificate**

Residential Construction - Advanced Certificate

Total Program Cost (In District):	\$4,897.30
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Residential Construction - Associate in Applied Science

Program Code: AAS.15887

The Certificate Program is designed to prepare you for jobs in rough carpentry and house framing with the skills you have learned in such areas as: job specifications and drawings, building materials, use of woodworking and surveying tools, cost estimations, concrete work, and exterior finishing. Completion of this program preempts years of apprenticeship in the construction field. You may become self-employed or find employment with a contractor or in a building supply center.

In addition to skills gained from courses completed in the Residential Construction Certificate Program, students completing the Associate degree will have learned construction techniques in interior trim, cabinet making and installation, equipment installation, and interior finishing. The Program also offers the breadth of education necessary for a successful self-employed business or lumberyard management and has the support of the home builders association.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
MTH ---	4	Any Approved Intermediate Algebra Course or Higher	_____
15/19	SUBTOTAL		

Core Program Requirements

Course	Credits	Course Title	Completed
ARC 101	3	Materials and Methods of Construction	_____
ARC 111	3	Mechanical and Electrical Systems for Buildings	_____
ARC 204	3	Estimating Building Construction	_____
ARC 211	2	Elements of Structural Design	_____
ARC 221	3	Site Preparation	_____
RC 101	3	Construction Print Interpretation	_____
TTI 110	2	Sustainable Building Principles	_____
19	SUBTOTAL		

Successful completion of the Core Program courses prepare the student for completing the Architectural Technology Associate Degree, The Construction Management Associate Degree, or the Residential Construction Degree. Please refer to the catalog page for the relevant Program Requirement Courses.

Program Requirement Courses for Residential Construction

Course	Credits	Course Title	Completed
RC 104	3	Construction Lab	_____
RC 106	3	Concrete and Foundations	_____
RC 108	2	Construction Safety	_____
RC 114	4	Framing Square	_____
RC 200W	3	Construction Contracting Rules and Regulations	_____
RC 201	4	Rough and Outside Framing	_____
RC 203	3	Residential CAD	_____
RC 204	4	Inside Finishing and Hardware	_____
RC 205	5	Cabinet Making and Millwork	_____
TTI 120	3	Energy Auditing and Weatherization	_____
34	SUBTOTAL		

68/72 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required in all Core courses for the degree.
2. Demonstrate an acceptable score on the current College assessment instrument
3. Students planning to transfer should take any approved College Composition II requirement.
4. RC 201 Rough and Outside Framing (Fall semester), and RC 204 Inside Finishing and Hardware (Winter semester) are to be taken in sequence in the same academic year.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Respiratory Care - Associate in Applied Science

Program Code: AAS.20579

Respiratory Therapists in Michigan are licensed health care providers. In order to be licensed you must earn a minimum of an Associate degree and successfully complete National exams. As a Respiratory Therapist you will be qualified to assume primary clinical responsibility for all respiratory care modalities, including responsibilities involved in the supervision of Certified Respiratory Therapist functions. The registered therapist is also capable of serving as a resource person to the physician with regard to current practices in respiratory care and to the hospital staff regarding effective and safe methods for administering respiratory care. Respiratory therapists who have a minimum of an associate degree from a respiratory therapy education program supported by the Commission on Accreditation for Respiratory Care (CoARC), or its predecessors the Committee on Accreditation for Respiratory Care (CoARC), or the Joint Review Committee for Respiratory Therapy Education (JRCRTE) are eligible to apply for registration by the National Board for Respiratory Care. The process consists of one written exam and clinical simulation. Applicants must pass both to be awarded the Registered Respiratory Therapist (RRT) credential.

General Education Courses - Section I

Course	Credits	Course Title	Completed
BIO 140W	5	Essentials Of Human Anatomy & Physiology	_____
OR			
BIO 152W	(4)	Human Anatomy & Physiology I AND	_____
BIO 153W	(4)	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
HSC 105	2	Medical Terminology	_____
RT 100	2	Basic Sciences for Respiratory Care	_____
9/12	SUBTOTAL		

General Education Courses - Section II

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communication	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PHL 215W	3	Health Care Ethics	_____
OR			
PSY 101W	(3)	Applied Psychology	_____
OR			
PSY 211W	(4)	General Psychology	_____
OR			
SOC 211W	(3)	Principles of Sociology	_____
OR			
COM 112W	(3)	Fundamentals of Oral Communication	_____
14/16	SUBTOTAL		

Prior to attempting to register to begin the clinical sequence, you must complete the above courses and the "Validation Application." See Validation Procedures in this catalog for the required process.

Clinical Course Sequence

First Semester (Fall)

Course	Credits	Course Title	Completed
RT 117	3	Basic Respiratory Care I	_____
RT 118	3	Basic Respiratory Care II	_____
RT 121	2	Orientation to RC	_____
RT 126	3	Clinical Education I	_____
RT 131	2	Artificial Airway Care and Manual Ventilation	_____
13	SUBTOTAL		

Second Semester (Winter)

Course	Credits	Course Title	Completed
RT 132	3	Adult Ventilatory Care	_____
RT 135	4	Diagnostics and Special Procedures	_____
RT 146	6	Clinical Education II	_____
RT 149	1	Clinical Education 2 Seminar	_____
14	SUBTOTAL		

Third Semester (Spring)

Course	Credits	Course Title	Completed
RT 150	3	Cardiovascular Evaluation and Monitoring	_____
3	SUBTOTAL		

Fourth Semester (Fall)

Course	Credits	Course Title	Completed
RT 207	3	Cardiopulmonary Pathophysiology	_____
RT 212	2	Advance Ventilator Management	_____
RT 214	1	Seminar I	_____
RT 216	1	Rehabilitation and Home Care	_____
RT 226	6	Clinical Education III	_____
RT 229	1	Clinical Education 3 Seminar	_____
RT 231	2	Maternal and Neonatal Respiratory Care	_____
16	SUBTOTAL		

Fifth Semester (Winter)

Course	Credits	Course Title	Completed
RT 211	3	Advanced Cardiopulmonary Physiology	_____
RT 234	1	Seminar II	_____
RT 240	3	Advanced Respiratory Care Pharmacology	_____
RT 244	1	Optional Rotation/Special Project	_____
RT 246	8	Comprehensive Clinical Education	_____
16	SUBTOTAL		

85/90 TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

1. Prerequisite qualifications for validation are: high school graduate or GED equivalent; be admitted to Delta College; provide transcripts from high school and all other colleges attended; and completion of Section I courses with a "C" (2.0) minimum grade with the exception of BIO 140 & RT 100 which must be completed with a "B" (3.0)
2. Completion of Section I courses is required for Validation. It is strongly recommended that Section II courses be completed prior to the clinical experience. All courses in Section I and II are required for the Associate Degree.
3. RT 100 has a prerequisite math requirement that Algebra must have been taken within the past 5 years.
4. RT 100 may include a required job shadow experience to become validated. This may require that students complete an online training session, have proof of a negative TB tine test and other supporting documentation before gaining access to the agency.
5. A maximum of 15 students will be accepted each Fall Semester for Respiratory Care courses from qualified students who have been assigned a "semester and year of validation." You will be placed on this list only after successfully completing the prerequisite qualifications and submitting a "Validation Application" to the Registrar's Office. See Validation Procedures in this catalog for the required procedures.
6. After you receive notification of acceptance into clinicals for the Fall Semester, you must have a complete physical examination including a negative TB test by the first week of the Fall semester.
7. In addition to tuition and textbook costs, you must purchase a laboratory coat, protective eye wear, name tag, provide your own transportation to clinical settings (plus possible hospital parking charges), and purchase two Self-Assessment Exams (total cost approximately \$150) during the final

semester in the Program. Also, students will be required to attend one Michigan Society for Respiratory Care (MSRC) seminar in the second year of the program.

8. RT courses are offered day hours only and generally must be taken together in the sequence shown. You must achieve a minimum "C" (2.0) grade in each RT course to be eligible to continue in the Program.
9. Admission to and continuance in the Program is contingent upon your compliance with all policies contained in the Respiratory Care Student handbook. Reentry into the program is outlined in the handbook and is based on available seating within the program.
10. If you have prior respiratory therapy work experience, you may be eligible to waive or receive equivalent credit for some RT courses.
11. Also see "Dual Degrees."
12. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
13. Delta College reserves the right to modify graduation requirements.

Respiratory Care - General Management - Dual Associate Degree

Program Code: DE.30578

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
15/17	SUBTOTAL		

Electives (Choose 7/9 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
		OR	
PHL 203W	3	Business Ethics	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/9	SUBTOTAL		
24	TOTAL CREDITS		

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.

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4. Credits required for a dual degree vary according to the chosen curricula.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Carpenter (Building Trades) - Advanced Certificate

Program Code: CTA.35900

The following advanced certificate is representative of typical Trade Related Instruction for Carpenters. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
ARC 204	3	Estimating Building Construction	_____
SKCT 102	3	Building Materials	_____
SKCT 105	3	Building Site Surveying	_____
SKCT 106	3	Concrete and Foundations	_____
SKCT 111	3	Construction Print Interpretation	_____
SKCT 114	4	Framing Square	_____
SKCT 201	4	Rough and Outside Framing	_____
SKCT 204	4	Inside Finishing and Hardware	_____
SKCT 205	5	Cabinet Making and Millwork	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____

37 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Carpenter - Adv Certificate**

Skilled Trades (Apprenticeship) Carpenter - Adv Certificate

Total Program Cost (In District):	\$5,736.90
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Carpenter (Building Trades) - Associate in Applied Science

Program Code: AAS.60900

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	SUBTOTAL		

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
13/14	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
ARC 204	3	Estimating Building Construction	_____
SKCT 102	3	Building Materials	_____
SKCT 105	3	Building Site Surveying	_____
SKCT 106	3	Concrete and Foundations	_____
SKCT 111	3	Construction Print Interpretation	_____
SKCT 114	4	Framing Square	_____
SKCT 201	4	Rough and Outside Framing	_____
SKCT 204	4	Inside Finishing and Hardware	_____
SKCT 205	5	Cabinet Making and Millwork	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
37	SUBTOTAL		
62	TOTAL CREDITS		

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Electrician - Advanced Certificate

Program Code: CTA.35901

The following advanced certificate is representative of typical Trade Related Instruction for Electrician. The core courses meet or exceed the minimum Related Technical Instruction requirements as established by the Electrical Administrative Board of the State of Michigan. Apprentices are permitted to apply up to 1000 RTI hours towards the education required to sit for the journeyman electrician licensing exam. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyman card may be acceptable. This program has been approved by the Michigan Department of Licensing and Regulatory Affairs, (LARA) and by the Advisory Board.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9441.

Since many company apprenticeships programs are registered with the US Department of Labor, Office of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card.

Core Courses

Course	Credits	Course Title	Completed
SKEL 103	2	OSHA Safety and Michigan Electrical Laws	_____
SKET 100	2	Electrical Calculations	_____
SKET 110	2	DC Circuits	_____
SKET 120	2	AC Circuits	_____
SKET 122	5	Programmable Logic Controllers OR	_____
SKET 178	(5)	Residential Wiring and Controls	_____
SKET 130	3	Conventional Controls	_____
SKET 132	3	Power Distribution	_____
SKET 134	2	Transformers	_____
SKET 136	2	Grounding	_____
SKET 138	2	Over-current Protection	_____
SKET 139	2	Motors	_____
SKET 140	4	Motor Controls and Drives	_____
SKET 141	3	Industrial Electrical Codes & Standards	_____
SKET 160	2	Fire Alarm and Security Systems	_____

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Elective Courses (Choose 3 Credits)

Course	Credits	Course Title	Completed
	3	Any SKEL or SKET course not listed in program	_____
		OR	
SKMT 220	(3)	Hydraulics and Pneumatics I	_____
	3	SUBTOTAL	

39 TOTAL CREDITS

1. File an application with Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Electrician - Adv Cert**

Skilled Trades (Apprenticeship) Electrician - Adv Cert

Total Program Cost (In District):	\$6,193.00
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Electrician - Associate in Applied Science

Program Code: AAS.60901

The following program is representative of typical Trade Related Instruction for Electrician. The core courses meet or exceed the minimum Related Technical Instruction requirements as established by the Electrical Administrative Board of the State of Michigan. Apprentices are permitted to apply up to 1000 RTI hours towards the education required to sit for the journeyman electrician licensing exam. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable. This program has been approved by the Michigan Department of Licensing and Regulatory Affairs, (LARA) and by the Advisory Board.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9441.

Since many company apprenticeships programs are registered with the US Department of Labor, Office of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	11/12	SUBTOTAL	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
12	12	SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
SKEL 103	2	OSHA Safety and Michigan Electrical Laws	_____
SKET 100	2	Electrical Calculations	_____
SKET 110	2	DC Circuits	_____
SKET 120	2	AC Circuits	_____

SKET 122	5	Programmable Logic Controllers OR	_____
SKET 178	(5)	Residential Wiring and Controls	_____
SKET 130	3	Conventional Controls	_____
SKET 132	3	Power Distribution	_____
SKET 134	2	Transformers	_____
SKET 136	2	Grounding	_____
SKET 138	2	Over-current Protection	_____
SKET 139	2	Motors	_____
SKET 140	4	Motor Controls and Drives	_____
SKET 141	3	Industrial Electrical Codes & Standards	_____
SKET 160	2	Fire Alarm and Security Systems	_____
36	SUBTOTAL		

Electrical Elective Courses (Choose 3 Credits)

Course	Credits	Course Title	Completed
	3	Any SKEL or SKET course not listed in program	_____
		OR	
SKMT 220	(3)	Hydraulics and Pneumatics I	_____
3	SUBTOTAL		

62/63 TOTAL CREDITS

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Jobbing Molder - Advanced Certificate

Program Code: CTA.35902

The following advanced certificate is representative of typical Trade Related Instruction for Jobbing Molder. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at (989)-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	_____
SKCN 216	4	CNC with Machining Applications	_____
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKDR 133	4	Fundamentals of Tooling Design	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 111	3	Metals	_____
SKMT 231	3	Fundamentals of Foundry Technology	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKTR 183	3	Machinery Handbook	_____

43 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Jobbing Molder - Adv Cert**

Skilled Trades (Apprenticeship) Jobbing Molder - Adv Cert

Total Program Cost (In District):	\$6,654.10
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Jobbing Molder - Associate in Applied Science

Program Code: AAS.60902

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	SUBTOTAL		

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
7/8	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	_____
SKCN 216	4	CNC with Machining Applications	_____
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKDR 133	4	Fundamentals of Tooling Design	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 111	3	Metals	_____
SKMT 231	3	Fundamentals of Foundry Technology	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKTR 183	3	Machinery Handbook	_____

43 SUBTOTAL

62/63 TOTAL CREDITS

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Machine Builder - Advanced Certificate

Program Code: CTA.35903

The following advanced certificate is representative of typical Trade Related Instruction for Machine Builder. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 151	3	Power Transmission	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKOT 191	3	Machine Controls 1	_____
SKOT 192	3	Machine Controls II	_____
SKPT 106	3	Pipefitters Handbook	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 183	3	Machinery's Handbook	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____

40 TOTAL CREDITS

1. File an application with the Registrar's office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Machine Builder - Adv Cert.**

Skilled Trades (Apprenticeship) Machine Builder - Adv Cert.

Total Program Cost (In District):	\$6,198.00
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Machine Builder - Associate in Applied Science

Program Code: AAS.60903

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12		SUBTOTAL	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
10/11		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 151	3	Power Transmission	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKOT 191	3	Machine Controls I	_____
SKOT 192	3	Machine Controls II	_____
SKPT 106	3	Pipefitters Handbook	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 183	3	Machinery Handbook	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____
40	SUBTOTAL		
62	TOTAL CREDITS		

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.
4. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Skilled Trades (Apprenticeship) - Machine Repair - Advanced Certificate

Program Code: CTA.35904

The following advanced certificate is representative of typical Trade Related Instruction for Machine Repair. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	_____
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 111	3	Metals	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKTR 183	3	Machinery Handbook	_____

40 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Machine Repair- Adv Cert**

Skilled Trades (Apprenticeship) Machine Repair- Adv Cert

Total Program Cost (In District):	\$6,193.00
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Machine Repair - Associate in Applied Science

Program Code: AAS.60904

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	SUBTOTAL		

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
10/11	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	_____
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKMA 103	4	Mathematics III	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 111	3	Metals	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKTR 183	3	Machinery Handbook	_____
40	SUBTOTAL		
62	TOTAL CREDITS		

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Mechatronics Technology - Advanced Certificate

Program Code: CTA.35914

The Advanced Certificate in Skilled Trades - Mechatronics Technology - provides the educational requirements for a mechatronics technician. The field of mechatronics integrates the disciplines of electrical, mechanical, fluid power, robotics, and computer technologies to control equipment. Duties of a mechatronics technician include the installation, troubleshooting, repair, and preventative maintenance of automated systems. Employment opportunities include the medical field, original equipment manufacturers, food processing plants, manufacturing facilities, and independent contracting.

The following advanced certificate is representative of typical Trade Related Instruction for Mechatronics Technician. The core courses meet the minimum Related Technical Instruction requirements. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyperson card may be acceptable. This program has been approved by the Michigan Department of Licensing and Regulatory Affairs, (LARA) and by the Advisory Board.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeship programs are registered with the US Department of Labor, Office of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the Delta College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyperson's card.

Core Courses

Course	Credits	Course Title	Completed
SKET 100	2	Electrical Calculations	_____
SKET 110	2	DC Circuits	_____
SKET 120	2	AC Circuits	_____
SKET 122	5	Programmable Logic Controllers	_____
SKET 130	3	Conventional Controls	_____
SKET 134	2	Transformers	_____
SKET 140	4	Motor Controls and Drives	_____
SKMT 151	3	Power Transmission	_____
SKET 162	3	Industrial Robotics I	_____
SKET 164	3	Robotics Electrical Service & Troubleshooting	_____
SKET 210	4	Introduction to Electronics	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKET 250	4	Programmable Logic Controllers II - Siemens	_____
SKET 252	4	Programmable Logic Controllers II - AB ControlLogix	_____
SKET 280	3	Industrial Computer Networks	_____

47 TOTAL CREDITS

1. A grade of "C" (2.0) or better is required in all Core Courses for the degree.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Mechatronics - Adv. Cert.**

Skilled Trades (Apprenticeship) Mechatronics - Adv. Cert.

Total Program Cost (In District): \$7,494.50

On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Millwright - Advanced Certificate

Program Code: CTA.35905

The following advanced certificate is representative of typical Trade Related Instruction for Millwright. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyman card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card.

Core Courses

Course	Credits	Course Title	Completed
SKCT 101	3	Industrial Millwright Procedures	_____
SKDR 101	3	Blueprint Reading	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 151	3	Power Transmission	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKMT 171	3	Sheetmetal Layout I	_____
SKPH 101	4	Applied Physics	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____

34 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Millwright - Adv. Cert.**

Skilled Trades (Apprenticeship) Millwright - Adv. Cert.

Total Program Cost (In District):	\$5,275.80
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Millwright - Associate in Applied Science

Program Code: AAS.60905

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12		SUBTOTAL	

Suggested Electives

Course	Credits	Course Title	Completed
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
16/17		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
SKCT 101	3	Industrial Millwright Procedures	_____
SKDR 101	3	Blueprint Reading	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 151	3	Power Transmission	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKMT 171	3	Sheetmetal Layout I	_____
SKPH 101	4	Applied Physics	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____
34	SUBTOTAL		
62	TOTAL CREDITS		

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Pattern Maker - Advanced Certificate

Program Code: CTA.35906

The following advanced certificate is representative of typical Trade Related Instruction for Pattern Maker. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	_____
SKCN 216	4	CNC with Machining Applications	_____
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKDR 121	3	Descriptive Geometry	_____
SKDR 133	4	Fundamentals of Tooling Design	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 111	3	Metals	_____
SKMT 231	3	Fundamentals of Foundry Technology	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKTR 183	3	Machinery Handbook	_____

46 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Pattern Maker - Adv. Cert.**

Skilled Trades (Apprenticeship) Pattern Maker - Adv. Cert.

Total Program Cost (In District):	\$7,115.20
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Pattern Maker - Associate in Applied Science

Program Code: AAS.60906

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	SUBTOTAL		

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
5/6	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	_____
SKCN 216	4	CNC with Machining Applications	_____
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKDR 121	3	Descriptive Geometry	_____
SKDR 133	4	Fundamentals of Tooling Design	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 111	3	Metals	_____
SKMT 231	3	Fundamentals of Foundry Technology	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKTR 183	3	Machinery's Handbook	_____
46	SUBTOTAL		
62/64	TOTAL CREDITS		

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Pipefitter (Industrial Maintenance) - Advanced Certificate

Program Code: CTA.35907

The following advanced certificate is representative of typical Trade Related Instruction for Pipefitter (Industrial Maintenance). Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 141	3	Pipe and Tube Isometrics	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKPH 101	4	Applied Physics	_____
SKPT 101	4	Industrial Piping	_____
SKPT 106	3	Pipefitters Handbook	_____
SKPT 121	3	Fundamentals of Refrigeration & A/C	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____

33 TOTAL CREDITS

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Pipefitter - Adv. Cert.**

Skilled Trades (Apprenticeship) Pipefitter - Adv. Cert.

Total Program Cost (In District):	\$5,122.10
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Pipefitter (Industrial Maintenance) - Associate in Applied Science

Program Code: AAS.60907

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	SUBTOTAL		

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
17/18	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 141	3	Pipe and Tube Isometrics	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKPH 101	4	Applied Physics	_____
SKPT 101	4	Industrial Piping	_____
SKPT 106	3	Pipefitters Handbook	_____
SKPT 121	3	Fundamentals of Refrigeration & A/C	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
33	SUBTOTAL		
62	TOTAL CREDITS		

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Plumber-Pipefitter - Advanced Certificate

Program Code: CTA.35908

The following advanced certificate is representative of typical Trade Related Instruction for Plumber/Pipefitter. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 141	3	Pipe and Tube Isometrics	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 171	3	Sheetmetal Layout I	_____
SKPH 101	4	Applied Physics	_____
SKPT 101	4	Industrial Piping	_____
SKPT 106	3	Pipefitters Handbook	_____
SKPT 121	3	Fundamentals of Refrigeration & A/C	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____

39 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Plumber-Pipefitter-Adv Cert**

Skilled Trades (Apprenticeship) Plumber-Pipefitter-Adv Cert

Total Program Cost (In District):	\$6,044.30
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Plumber-Pipefitter - Associate in Applied Science

Program Code: AAS.60908

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	SUBTOTAL		

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
11/12	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 141	3	Pipe and Tube Isometrics	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 171	3	Sheetmetal Layout I	_____
SKPH 101	4	Applied Physics	_____
SKPT 101	4	Industrial Piping	_____
SKPT 106	3	Pipefitters Handbook	_____
SKPT 121	3	Fundamentals of Refrigeration & A/C	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____

39 SUBTOTAL

62 TOTAL CREDITS

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Stationary Boiler Engineering - Advanced Certificate

Program Code: CTA.35909

The following advanced certificate is representative of typical Trade Related Instruction for Stationary Boiler Engineering. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 141	3	Pipe and Tube Isometrics	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKPT 106	3	Pipefitters Handbook	_____
SKPT 111	2	Stationary Boiler Engineering I	_____
SKPT 112	2	Stationary Boiler Engineering II	_____
SKPT 113	2	Stationary Boiler Engineering III	_____
SKPT 114	3	Stationary Boiler Engineering IV	_____
SKPT 121	3	Fundamentals of Refrigeration & A/C	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____

39 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (App) Stationary Boiler Engineering-Adv Cert**

Skilled Trades (App) Stationary Boiler Engineering-Adv Cert

Total Program Cost (In District):	\$6,044.30
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Stationary Boiler Engineering - Associate in Applied Science

Program Code: AAS.60909

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	2	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	SUBTOTAL		

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
11/12	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 141	3	Pipe and Tube Isometrics	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKPT 106	3	Pipefitters Handbook	_____
SKPT 111	2	Stationary Boiler Engineering I	_____
SKPT 112	2	Stationary Boiler Engineering II	_____
SKPT 113	2	Stationary Boiler Engineering III	_____
SKPT 114	3	Stationary Boiler Engineering IV	_____
SKPT 121	3	Fundamentals of Refrigeration & A/C	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____

39 SUBTOTAL

62 TOTAL CREDITS

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Tinsmith - Advanced Certificate

Program Code: CTA.35910

The following advanced certificate is representative of typical Trade Related Instruction for Tinsmith. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journeyman card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 121	3	Descriptive Geometry	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKMT 171	3	Sheetmetal Layout I	_____
SKMT 172	3	Sheetmetal II	_____
SKMT 173	3	Sheetmetal III	_____
SKPH 101	4	Applied Physics	_____
SKPT 126	3	Heating System Fundamentals	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____

34 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Tinsmith - Advanced Cert**

Skilled Trades (Apprenticeship) Tinsmith - Advanced Cert

Total Program Cost (In District):	\$5,275.80
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Tinsmith - Associate in Applied Science

Program Code: AAS.60910

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	SUBTOTAL		

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
16/17	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 121	3	Descriptive Geometry	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 161	2	Industrial Rigging and Safety	_____
SKMT 171	3	Sheetmetal Layout I	_____
SKMT 172	3	Sheetmetal II	_____
SKMT 173	3	Sheetmetal III	_____
SKPH 101	4	Applied Physics	_____
SKPT 126	3	Heating System Fundamentals	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____
34	SUBTOTAL		
62	TOTAL CREDITS		

1. Successfully complete six credits in content-area writing courses. Students with previously earned degrees from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Tool-Die Maker - Advanced Certificate

Program Code: CTA.35911

The following advanced certificate is representative of typical Trade Related Instruction for Tool/Die Maker. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, carpenter apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	_____
SKCN 216	4	CNC with Machining Applications	_____
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKDR 133	4	Fundamentals of Tooling Design	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 111	3	Metals	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKTR 183	3	Machinery's Handbook	_____

43 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Tool-Die Maker - Adv Cert**

Skilled Trades (Apprenticeship) Tool-Die Maker - Adv Cert

Total Program Cost (In District):	\$6,654.10
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Tool-Die Maker - Associate in Applied Science

Program Code: AAS.60911

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12	SUBTOTAL		

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
7/8	SUBTOTAL		

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	_____
SKCN 216	4	CNC with Machining Applications	_____
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKDR 133	4	Fundamentals of Tooling Design	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 111	3	Metals	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKTR 183	3	Machinery Handbook	_____
43	SUBTOTAL		
62	TOTAL CREDITS		

1. Successfully complete six credits in content-area writing courses. Students with previously earned Bachelor's or higher degree from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Apprenticeship) - Tool Hardener - Advanced Certificate

Program Code: CTA.35912

The following advanced certificate is representative of typical Trade Related Instruction for Tool Hardener. Employers are not restricted to this program and may elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction should call the Skilled Trades Program Manager at 989-686-9476. Upon successful completion of all courses listed below, apprentices may apply for the advanced certificate with the Registrar's Office. Prior academic course work or journey person card may be acceptable.

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders. These programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or (989) 686-9594.

Since many company apprenticeships programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journey person's card.

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKDR 133	4	Fundamentals of Tooling Design	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 111	3	Metals	_____
SKMT 112	2	Ferrous Heat Treatment	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____

37 TOTAL CREDITS

1. File an application with the Registrar's Office to obtain the advanced certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Apprenticeship) Tool Hardener - Adv Cert**

Skilled Trades (Apprenticeship) Tool Hardener - Adv Cert

Total Program Cost (In District):	\$5,736.90
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Apprenticeship) - Tool Hardener - Associate in Applied Science

Program Code: AAS.60912

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1) Successful completion of all courses listed in a specific related training program (32-40 credits); 2) Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs; 3) A journeyman card or equivalent trade experience.

APPRENTICESHIP TRADE RELATED INSTRUCTION PROGRAMS

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered during the evening only. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made directly to them by phoning (989) 686-9476 or 686-9594.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration of these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College. Delta College does not issue a journeyman's card only a completion certificate.

The following program is representative of the typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Programs should call the Skilled Trades Program Manager at (989) 686-9594 or 686-9476.

General Education Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG ---	3	Any Approved College Composition II Course	_____
OR			
ENG ---	(3)	Any Approved College Composition I Course AND	_____
ENG 113	(3)	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
LW 220W	1	Lifelong Wellness AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
11/12		SUBTOTAL	

Suggested Electives

Course	Credits	Course Title	Completed
		Economics Courses (ECN)	_____
		General Management Courses (MGT)	_____
		Manufacturing and Industrial Technology Courses (MIT)	_____
		Mechanical Technology Courses (MT)	_____
		Psychology Courses (PSY)	_____
13/14		SUBTOTAL	

Core Courses

Course	Credits	Course Title	Completed
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKDR 133	4	Fundamentals of Tooling Design	_____
SKMA 103	4	Applied Geometry and Trigonometry	_____
SKMT 111	3	Metals	_____
SKMT 112	2	Ferrous Heat Treatment	_____
SKPH 101	4	Applied Physics	_____
SKTR 181W	4	Machine Tools I	_____
SKTR 182	4	Machine Tools II	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____
37	SUBTOTAL		
62	TOTAL CREDITS		

1. Successfully complete six credits in content-area writing courses. Students with previously earned Bachelor's or higher degree from regionally accredited colleges and universities are exempt from this policy.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Pre-Apprentice) Agricultural Maintenance - Advanced Certificate

Program Code: CTA.35895

Delivers core skill sets to students to enter into an apprenticeship or take entry level apprenticeship test. Demonstrates to potential employer that student has shown knowledge, interest, and skills to apply for a position as a tradesman.

Core Courses

Course	Credits	Course Title	Completed
AUTO 106	4	Electrical/Electronic Systems Level 1	_____
MIT 118	2	Safety Practices and Procedures	_____
SKDR 101	3	Blueprint Reading	_____
SKET 106	3	Applied Electricity I	_____
SKMT 220	3	Hydraulics and Pneumatics I	_____
SKMT 222	3	Hydraulics and Pneumatics II	_____
SKMT 151	3	Power Transmission	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____
SKWL 104	3	Introduction to Shielded Metal Arc Welding	_____
27	TOTAL CREDITS		

Certificate Requirements

1. CERTIFICATE REQUIREMENTS: In addition to the core courses a math competency of MATH LEVEL 3 is required for this certificate and may be achieved by testing into MATH LEVEL 3 on the Assessment Test or successful completion of SKMA 096. A reading competency of READING LEVEL 2 or higher is required for this certificate and may be achieved by testing into READING LEVEL 2 or higher on the Assessment Test or successful completion of RDG 093W or any higher level ENG course. RDG 093W and SKMA 096 credits are not applied towards the total credits required for this certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Pre-App) Agricultural Maintenance-Adv Cert**

Skilled Trades (Pre-App) Agricultural Maintenance-Adv Cert

Total Program Cost (In District):	\$4,353.60
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Debt:	N/A

Skilled Trades (Pre-Apprentice) Construction - Certificate of Achievement

Program Code: CTZ.35896

Delivers core skill sets to students to enter into an apprenticeship or take entry level apprenticeship test. Demonstrates to potential employer that student has shown knowledge, interest, and skills to apply for a position as a tradesman.

Core Courses

Course	Credits	Course Title	Completed
RC 104	3	Construction Lab	_____
SKCT 102	3	Building Materials	_____
SKCT 111	3	Construction Print Interpretation	_____
SKCT 114	4	Framing Square	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____

16 TOTAL CREDITS

1. CERTIFICATE REQUIREMENTS: In addition to the core courses a math competency of MATH LEVEL 3 is required for this certificate and may be achieved by testing into MATH LEVEL 3 on the Assessment Test or successful completion of SKMA 096. A reading competency of READING LEVEL 2 or higher is required for this certificate and may be achieved by testing into READING LEVEL 2 or higher on the Assessment Test or successful completion of ENG 093 or any higher level ENG course. ENG 093 and SKMA 096 credits are not applied towards the total credits required for this certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Skilled Trades (Pre-Apprentice) Electrical - Advanced Certificate

Program Code: CTA.35894

Delivers core skill sets to students to enter into an apprenticeship or take entry level apprenticeship test. Demonstrates to potential employer that student has shown knowledge, interest, and skills to apply for a position as a tradesman.

Core Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course	_____
SKEL 103	2	OSHA Safety and Michigan Electrical Laws	_____
SKET 100	2	Electrical Calculations	_____
SKET 110	2	DC Circuits	_____
SKET 120	2	AC Circuits	_____
SKET 130	3	Conventional Controls	_____
SKET 132	3	Power Distribution	_____
SKET 134	2	Transformers	_____
SKET 136	2	Grounding	_____
SKET 210	4	Introduction to Electronics	_____

25 TOTAL CREDITS

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Pre-Apprentice) Electrical - Adv Cert**

Skilled Trades (Pre-Apprentice) Electrical - Adv Cert

Total Program Cost (In District):	\$3,733.80
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Skilled Trades (Pre-Apprentice) Mechanical - Advanced Certificate

Program Code: CTA.35893

Delivers core skill sets to students to enter into an apprenticeship or take entry level apprenticeship test. Demonstrates to potential employer that student has shown knowledge, interest, and skills to apply for a position as a tradesman.

Core Courses

Course	Credits	Course Title	Completed
SKCN 162	4	Computer Numerical Control Theory	_____
SKDR 101	3	Blueprint Reading	_____
SKDR 111	3	Drawing II	_____
SKMT 101	3	Hydraulics and Pneumatics I	_____
SKMT 111	3	Metals	_____
SKTR 181W	4	Machine Tools I	_____
SKWL 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting	_____

23 TOTAL CREDITS

1. CERTIFICATE REQUIREMENTS: In addition to the core courses a math competency of MATH LEVEL 4 is required for this certificate and may be achieved by testing into MATH LEVEL 4 on the Assessment Test or successful completion of SKMA 096 and/or SKMA 097. A reading competency of READING LEVEL 2 or higher is required for this certificate and may be achieved by testing into READING LEVEL 2 or higher on the Assessment Test or successful completion of RDG 093 or any higher level ENG course. RDG 093 and SKMA 096 and SKMA 097 credits are not applied towards the total credits required for this certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Skilled Trades (Pre-Apprentice) Mechanical - Adv Cert**

Skilled Trades (Pre-Apprentice) Mechanical - Adv Cert

Total Program Cost (In District):	\$3,585.10
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Debt:	N/A

Surgical First Assistant - Post Associate Certificate of Completion

Program Code: CHP.35547

The non-physician Surgical First Assistant (SFA) provides aid in exposure, hemostasis and other technical functions that will help the surgeon carry out a safe operation with optimal results for the patients. These activities will be performed only as delegated tasks under the direct and immediate supervision of the responsible surgeon.

Upon accreditation of the program, students who successfully complete the program will receive a Surgical First Assisting Post Associate Certificate and will be qualified to sit for the national certification (CSFA®) through the National Board for Surgical Technology and Surgical Assisting (NBSTSA).

First Semester

Course	Credits	Course Title	Completed
SFA 271	6	Advanced Surgical Anatomy	_____
SFA 273	3	Fundamental Techniques	_____
9	SUBTOTAL		

Second Semester

Course	Credits	Course Title	Completed
SFA 275	2	Principles of Surgical Assisting	_____
SFA 277	6	Bioscience	_____
8	SUBTOTAL		

Third Semester

Course	Credits	Course Title	Completed
SFA 279	6	Clinical Practicum	_____
6	SUBTOTAL		
23	TOTAL CREDITS		

1. Prerequisite qualifications for application to the program are: graduate of a CAAHEP or ABHES accredited Surgical Technology, Nursing, or Physician Assistant Program; Certified Surgical Technologist (CST), Nurse-Operating Room (CNOR) or Physician Assistant-Certified (PA-C) with certification currency.
2. Prerequisite qualifications for entry to the program are: provide transcripts from all other colleges attended; be admitted to Delta College; completion with a "C" (2.0) minimum grade in BIO 152W and BIO 153W or BIO 240 and BIO 241, BIO 203W, HSC 105, and PHM 285 or equivalents; and two years full time experience or 4500 clinical hours in the last three years.
3. Current immunization and health records, including Hepatitis B inoculation or refusal thereof, and Healthcare Provider certification is required and must be maintained throughout the program.
4. A maximum of 18 students will be accepted each Winter semester. A minimum of 12 students must be admitted to start a cohort.
5. Students must achieve a minimum C (2.0) grade in each Surgical First Assistant course to be eligible to continue in the program.
6. Students must have transportation available to travel to college and clinical sites.
7. Students are responsible for obtaining their preceptor.
8. Students are required to show proof of liability insurance covering first assistant activities. Policy on an occurrence basis with limits of \$1,000,000 per incident, and \$3,000,000 in the annual aggregate.
9. Health insurance is strongly recommended. You are responsible for paying the cost of any medical expenses due to injury, needle stick or illness during your clinical externship. The College does not provide coverage for such situations.
10. Students who receive a failing grade in the coursework will be eligible to reapply one time for readmission to the Surgical First Assistant Program and must repeat the failed course successfully. Students may only be readmitted to the program one time. If unsuccessful in the second attempt, students cannot be readmitted to the program.
11. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
12. Delta College reserves the right to modify graduation requirements.

Surgical Technology - Advanced Certificate

Program Code: CHA.35547

The Surgical Technologist's primary function is to provide a safe, therapeutically effective environment for the surgical patient by assisting the surgeon and performing related services in the operating room. Graduates of this program will be eligible to sit for the National Certifying Exam. This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL, 33763; ph: 727-210-2350; fx: 727-210-2354; www.caahep.org.

General Education Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I AND	_____
BIO 153W	4	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
BIO 203W	4	General Microbiology	_____
ENG ---	3	Any Approved College Composition I Course	_____
HSC 105	2	Medical Terminology	_____
HSC 140	2	Basic Medical Emergencies	_____
PSY 101W	3	Applied Psychology	_____
OR			
PSY 211W	(4)	General Psychology	_____
OR			
SOC 211	(3)	Principles of Sociology	_____
ST 100	3	Introduction to Health Care Service	_____
25/26	SUBTOTAL		

Clinical Courses

First Semester

Course	Credits	Course Title	Completed
ST 207	2	Pharmacology in the Operating Room	_____
ST 210	2	The Surgical Patient	_____
ST 220	6	Fundamentals of Surgical Technology	_____
ST 230	4	Surgical Anatomy	_____
ST 240	4	Operative Procedures	_____
18	SUBTOTAL		

Second Semester (Winter)

Course	Credits	Course Title	Completed
ST 250	12	Clinical Externship	_____
ST 251W	3	Operating Room Seminar	_____
15	SUBTOTAL		

58/59 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required for all courses for the certificate.
2. BIO 152W and BIO 153W (or BIO 240 and BIO 241 or other biology courses approved by program coordinator) are key courses and must be completed within 10 years of completing certificate or degree. Failure to complete within the stated timeframe will require you to repeat these courses. See graduation requirements in catalog.
3. Prior to attempting to register to begin the clinical sequence, you must complete the courses BIO 152W and BIO 153W or BIO 240 and BIO 241, BIO 203W, ENG --- Comp I, HSC 105, HSC 140, PSY 101W or PSY 211W or SOC 211, and ST 100 and the "Validation Application".
4. As an applicant, you must be a high school graduate or submit a GED equivalency certificate.
5. Validation requirements: (a) LEVEL 4 READING competency; (b) LEVEL 5 MATH Competency. Math courses are to have been taken within the last five years. (c) Successful completion of each of the prerequisite courses (listed in note 3).
6. Application: See Validation Procedures in this catalog for the required process.
7. PRIOR to beginning clinical, you MUST have CPR certification, which includes the Two-Person Rescuer Technique. CPR certification must be renewed per program and health care agency's requirements.
8. Upon acceptance, a negative TB skin test and current physical examination must confirm that you cannot transmit or are free from communicable diseases and are capable of performing the duties necessary for safe patient care. Hepatitis B immunization or signed waiver is needed prior to clinical rotations.

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9. You must achieve a minimum "C" (2.0) grade in each clinical course to be eligible to continue in this program. These courses must be taken in the sequence shown and enrollment in these courses is by permission only.
 10. When in the clinical phase of the program, you must have transportation available, as sites may not be in your community.
 11. There will be additional expenses for uniforms that will be explained during Orientation.
 12. You are responsible for paying the cost of any medical care that might be necessary if you are injured or become ill as a result of clinical practice activities. The College does not provide insurance coverage for such situations.
 13. Student reentry procedures are printed in the Student Handbook given to all clinical students.
 14. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 15. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Surgical Technology - Advanced Certificate**

Surgical Technology - Advanced Certificate

Total Program Cost (In District):	\$9,299.60
On-Time Completion Rate:	N/A
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Surgical Technology - Associate in Applied Science

Program Code: AAS.20549

The Surgical Technologist's primary function is to provide a safe, therapeutically effective environment for the surgical patient by assisting the surgeon and performing related services in the operating room. Graduates of this program will be eligible to sit for the National Certifying Exam. This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL, 33763; ph: 727-210-2350; fx: 727-210-2354; www.caahep.org.

General Education Courses

Course	Credits	Course Title	Completed
BIO 152W	4	Human Anatomy & Physiology I AND	_____
BIO 153W	4	Human Anatomy & Physiology II	_____
OR			
BIO 240	(4)	Human Anatomy AND	_____
BIO 241	(4)	Physiology	_____
BIO 203W	4	General Microbiology	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
HSC 105	2	Medical Terminology	_____
HSC 140	2	Basic Medical Emergencies	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
PSY 101W	3	Applied Psychology	_____
OR			
PSY 211W	(4)	General Psychology	_____
OR			
SOC 211	(3)	Principles of Sociology	_____
ST 100	3	Introduction to Health Care Service	_____

33/35 SUBTOTAL

Prior to attempting to register to begin the clinical sequence, you must complete the above courses and the "Validation Application." See Validation Procedures in this catalog for the required process.

Clinical Courses

First Semester

Course	Credits	Course Title	Completed
ST 207	2	Pharmacology in the Operating Room	_____
ST 210	2	The Surgical Patient	_____
ST 220	6	Fundamentals of Surgical Technology	_____
ST 230	4	Surgical Anatomy	_____
ST 240	4	Operative Procedures	_____

18 SUBTOTAL

Second Semester (Winter)

Course	Credits	Course Title	Completed
ST 250	12	Clinical Externship	_____
ST 251W	3	Operating Room Seminar	_____

15 SUBTOTAL

66/68 TOTAL CREDITS

1. A grade of "C" (2.0) or higher is required for all courses for the degree.
2. BIO 152W and BIO 153W (or BIO 240 and BIO 241 or other biology courses approved by program coordinator) are key courses and must be completed within 10 years of completing certificate or degree. Failure to complete within the stated timeframe will require you to repeat or complete an approved Biology course(s). See graduation requirements in catalog
3. Prior to attempting to register to begin the clinical sequence, you must complete the courses BIO 152W and BIO 153W or BIO 240 and BIO 241, BIO 203W, ENG --- Comp I, HSC 105, HSC 140, PSY 101W or PSY 211W or SOC 211, and ST 100 and the "Validation Application".

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4. As an applicant, you must be a high school graduate or submit a GED equivalency certificate.
 5. Validation requirements: (a) READING LEVEL 4 competency; (b) MATH LEVEL 5 Competency. Math courses are to have been taken within the last five years. (c) Successful completion of each of the prerequisite courses (listed in note 3).
 6. Application: See Validation Procedures in this catalog for the required process.
 7. PRIOR to beginning clinical, you MUST have CPR certification, which includes the Two-Person Rescuer Technique. CPR certification must be renewed per program and health care agency's requirements.
 8. Upon acceptance, a negative TB skin test and current physical examination must confirm that you cannot transmit or are free from communicable diseases and are capable of performing the duties necessary for safe patient care. Hepatitis B immunization or signed waiver is needed prior to clinical rotations.
 9. You must achieve a minimum "C" (2.0) grade in each clinical course to be eligible to continue in this program. These courses must be taken in the sequence shown and enrollment in these courses is by permission only.
 10. When in the clinical phase of the program, you must have transportation available, as sites may not be in your community.
 11. There will be additional expenses for uniforms that will be explained during Orientation.
 12. You are responsible for paying the cost of any medical care that might be necessary if you are injured or become ill as a result of clinical practice activities. The College does not provide insurance coverage for such situations.
 13. Student reentry procedures are printed in the Student Handbook given to all clinical students.
 14. Also see "Dual Degrees."
 15. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 16. Delta College reserves the right to modify graduation requirements.

Surgical Technology - General Management - Dual Associate Degree

Program Code: DE.30550

Dual associate degrees are available in several Health curricula and the Automotive Service Technology curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

You will need to earn the required number of credits for your Associate in Applied Science Degree plus 24 credits from the courses below for the Associate in Business Studies Dual Degree.

If you have earned a degree previously, you may not use courses from that degree to satisfy the requirements of a Dual Degree. It is possible that your previous degree may have included one or more of the required business courses. You do not have to retake such classes, but must replace them from the list of approved business courses under the dual degree to complete the additional 24 credits by instruction at Delta College.

Business Core Requirements for Degree

Course	Credits	Course Title	Completed
ACC 121	3	Accounting for Managers OR	_____
ACC 211	(4)	Principles of Accounting I	_____
CST 133W	4	Computer Concepts & Competencies OR	_____
CST 134	(3)	Micro Computers in Business Using MS Office	_____
MGT 153W	3	Introduction to Business	_____
MGT 245	3	Principles of Management	_____
OAT 151	3	Business Communication I	_____
15/17	SUBTOTAL		

Electives (Choose 7/9 credits from the following)

Course	Credits	Course Title	Completed
ACC 212	4	Principles of Accounting II	_____
ACC 214	4	Microcomputer Accounting Applications	_____
CST 104	1	Microsoft Word Foundations	_____
CST 105	1	Outlook	_____
CST 151	2	Spreadsheet Fundamentals OR	_____
CST 155	(3)	Microsoft EXCEL	_____
CST 204	2	Microsoft Word: Intermediate	_____
CST 257	3	Database MS Access	_____
ECN 221W	4	Principles of Macroeconomics	_____
MGT 110	3	Business Mathematics	_____
MGT 145	3	Principles of Sales	_____
MGT 243	3	Principles of Marketing	_____
MGT 251W	3	Business Law I	_____
MGT 256	3	Human Resources Management I	_____
MGT 257W	3	Human Resources Management II	_____
OAT 152	3	Business Communication II	_____
PHL 203W	3	Business Ethics OR	_____
PHL 210W	(2)	Information Technology Ethics & Law	_____
7/9	SUBTOTAL		
24	TOTAL CREDITS		

1. In addition to completing all the courses for an approved applied science program (see above), you must complete a minimum of 24 credits by instruction at Delta College.
2. If a student has already earned credit in one or more of the required courses, the student will select other courses from the list of electives to total 24 credits.
3. Student re-entry procedures are printed in the handbook given to all clinical students.

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4. Credits required for a dual degree vary according to the chosen curricula.
 5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
 6. Delta College reserves the right to modify graduation requirements.

Water Environment Technology - Advanced Certificate

Program Code: CTA.35827

The vast majority of water and wastewater treatment plant operators work for local governments. Some work for private water supply and sanitary services companies, many of which provide operation and management services to local governments on a contract basis.

Required Courses

Course	Credits	Course Title	Completed
CHM 105W	5	Technical Chemistry I	_____
OR			
CHM 111	(5)	General and Inorganic Chemistry I AND	_____
CHM 112	(5)	General and Inorganic Chemistry II	_____
CST 133W	4	Computer Concepts & Competencies	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
WET 110	3	Water Treatment Technologies	_____
WET 112	3	Wastewater Treatment Technologies	_____
WET 210	3	Advanced Wastewater Treatment Technologies	_____
WET 212	3	Advanced Water Treatment Technologies	_____
WET 215	3	Water Quality Analysis And Wet Instrumentation	_____
WET 220	3	Water Quality Analysis and Microbiology	_____
WET 244	3	Water/Wastewater Utility Equipment Maintenance	_____
WET 265	4	Practicum In Water/Wastewater Treatment	_____

Math Requirement Alternatives

Course	Credits	Course Title	Completed
ENV 100W	3	Environmental Regulations	_____
ENV 151W	2.7	HAZWOPER Training	_____
ENV 153	1.3	Confined Space Training	_____
GLG 130	4	Environmental Geology	_____
GLG 230	2	Introductory Field Methods In Hydrogeology	_____

38/43 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in WET 110, WET 112, WET 210, WET 212, WET 220 and WET 244.
2. This certificate may be met by either CHM 105 alone, or the sequence of CHM 111 and CHM 112.
3. The MTH approved Intermediate Algebra Course requirement can also be met with an acceptable score on the current college assessment instrument. To meet minimum graduation requirements, credits may be replaced from the "Recommended Electives" course list above.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.
6. If you plan to pursue an advanced degree, see pages ADVANCED_DEGREE_PAGES for special transfer agreements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Water Environment Technology - Advanced Certificate**

Water Environment Technology - Advanced Certificate

Total Program Cost (In District):	\$5,880.60
On-Time Completion Rate:	100.00%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A

Water Environment Technology - Associate in Applied Science

Program Code: AAS.15827

The vast majority of water and wastewater treatment plant operators work for local governments. Some work for private water supply and sanitary services companies, many of which provide operation and management services to local governments on a contract basis.

Graduation from this program will prepare you to make application to write the Wastewater Class "D" Operator Certification examination and the entry-level waterworks certification examinations.

Core Courses

Course	Credits	Course Title	Completed
SCI 107	1	Introduction to Technical Programs in Science	_____
WET 110	3	Water Treatment Technologies	_____
WET 112	3	Wastewater Treatment Technologies	_____
WET 210	3	Advanced Wastewater Treatment Technologies	_____
WET 212	3	Advanced Water Treatment Technologies	_____
WET 215	3	Water Quality Analysis And Wet Instrumentation	_____
WET 220	3	Water Quality Analysis and Microbiology	_____
WET 230	3	Water/Wastewater Utility Management	_____
WET 240	3	Applied Hydraulics	_____
WET 244	3	Water/Wastewater Utility Equipment Maintenance	_____
WET 246	2	Water/Wastewater Utility Electrical Maintenance	_____
WET 265	4	Practicum In Water/Wastewater Treatment	_____
34	SUBTOTAL		

General Education Courses

Course	Credits	Course Title	Completed
BIO 110W	4	Environmental Science	_____
CHM 105W	5	Technical Chemistry I AND	_____
CHM 106W	5	Technical Chemistry II	_____
		OR	
CHM 111	(5)	General and Inorganic Chemistry I AND	_____
CHM 112	(5)	General and Inorganic Chemistry II	_____
CST 133W	4	Computer Concepts & Competencies	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG 113	3	Technical Communications (Recommended)	_____
		OR	
ENG ---	(3)	Any Approved College Composition II Course	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
		OR	
LW ---	(2)	Any 2 Credit LW Course	_____
POL ---	3/4	Any Approved American Government Requirement	_____
33/34	SUBTOTAL		

Recommended Electives

Course	Credits	Course Title	Completed
ENV 100W	3	Environmental Regulations	_____
ENV 151W	2.7	HAZWOPER Training	_____
ENV 153	1.3	Confined Space Training	_____
GLG 130	4	Environmental Geology	_____
GLG 230	2	Introductory Field Methods In Hydrogeology	_____

67/68 TOTAL CREDITS

1. It is highly recommended that students take SCI 107 early in their coursework.
2. A Grade of "C" (2.0) or higher is required in all Core Courses
3. A student not wishing to take the Michigan Department of Environment Quality Water and Wastewater Entry-Level Exams may replace WET 265 with one of the recommended electives or an elective approved by the Division Chair or the Program Chair to complete at least 64 credits.
4. The MTH approved Intermediate Algebra Course requirement can also be met with an acceptable score on the current college assessment instrument. To meet minimum graduation requirements, credits may be replaced from the "Recommended Electives" course list above.
5. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
6. Delta College reserves the right to modify graduation requirements.

Welding Engineering Technology - Advanced Certificate

Program Code: CTA.35899

The program combines specialized welding training with related technical courses. Students should contact Counseling or the Welding Staff for career or certificate information.

Required Courses

Course	Credits	Course Title	Completed
WELD 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas	_____
WELD 114W	8	Intermediate Shielded Metal Arc Welding	_____
WELD 120	2	Beginning Industrial Blueprint Reading	_____
WELD 122	2	Blueprint Reading for Welders and Fabricators	_____
WELD 220	4	WELD Qualification-Plate	_____
WELD 224W	8	Advanced Shielded Metal Arc Welding	_____
WELD 226W	8	Gas Tungsten Arc Welding	_____
WELD 235W	8	Gas Metal Arc Welding	_____
43	SUBTOTAL		
43	TOTAL CREDITS REQUIRED/CERTIFICATE		

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. For complete program description and details, please call James Proctor (989) 6896-9599 or Bruce Faccio (989)686-9146.
3. WELD 114 and WELD 235 are prerequisites for WELD 220.
4. WELD 120 is a prerequisite for WELD 122.
5. WELD 114 is a prerequisite for WELD 224.
6. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
7. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Welding Engineering Technology - Advanced Certificate**

Welding Engineering Technology - Advanced Certificate

Total Program Cost (In District):	\$6,731.10
On-Time Completion Rate:	70.37%
Program Job Placement Rate:	Not Required
Median Loan Dept:	\$0.00

Welding Engineering Technology - Associate in Applied Science

Program Code: AAS.60897

The program combines specialized welding training with related technical and general education courses. This Associate degree program meets the educational requirements necessary to pursue a baccalaureate degree in a variety of welding related careers. Students should contact Counseling or the Welding Staff for career or transfer information.

General Education Courses

Course	Credits	Course Title	Completed
COM 112W	3	Fundamentals of Oral Communication	_____
ENG ---	3	Any Approved College Composition I Course	_____
ENG ---	3	Any Approved College Composition II Course	_____
LW ---	1	Any 1 Credit LW Course AND	_____
LWA ---	1	Any 1 Credit LWA Course	_____
OR			
LW 223W	(2)	Wellness in Technical Trades	_____
MTH ---	4	Any Approved Intermediate Algebra Course	_____
MTH 121	3	Plane Trigonometry	_____
PHY 101	4	Applied Physics	_____
POL ---	3/4	Any Approved American Government Requirement	_____
25/26	SUBTOTAL		

Technical Courses

Course	Credits	Course Title	Completed
CAD 114	3	Introduction to CAD	_____
WELD 103	3	Introduction to Plasma, Carbon Arc, and Fuel Gas	_____
SKMT 111	3	Metals	_____
WELD 114W	8	Intermediate Shielded Metal Arc Welding	_____
WELD 120	2	Beginning Industrial Blueprint Reading	_____
WELD 122	2	Blueprint Reading for Welders and Fabricators	_____
WELD 220	4	WELD Qualification-Plate	_____
WELD 224W	8	Advanced Shielded Metal Arc Welding	_____
WELD 226W	8	Gas Tungsten Arc Welding	_____
WELD 235W	8	Gas Metal Arc Welding	_____
49	SUBTOTAL		
74/75	TOTAL CREDITS		

1. A Grade of "C" (2.0) or higher is required in all Technical Courses.
2. For complete program description and details, please call Bruce Faccio at (989)686-9146 or James Proctor at (989) 686-9599.
3. WELD 114 and WELD 235 are prerequisites for WELD 220.
4. WELD 120 is a prerequisite for WELD 122.
5. WELD 114 is a prerequisite for WELD 224.
6. Transfer students may be advised to complete PHY 111 or PHY 211 instead of PHY 101.
7. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
8. Delta College reserves the right to modify graduation requirements.

Writing - General Writing - Certificate of Achievement

Program Code: CEA.35319

By completing this certificate, you will show future employers and educational institutions that you have a commitment to and competency with writing that goes beyond the required College Composition courses. While pursuing the certificate, you will have the opportunity to work in many different genres and forms of writing including journalism, business writing, and creative writing.

Basic Requirements

Course	Credits	Course Title	Completed
ENG ---	3/5	Any Approved College Composition I Course AND	_____
ENG ---	3/5	Any Approved College Composition II Course	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
6/10		SUBTOTAL	

In addition, students will take twelve (12) or more credits from the following for completion of certificate:

Course	Credits	Course Title	Completed
CST 110	1	Web Page Development Using HTML	_____
CST 210	2	Advanced Web Page Development	_____
ENG 116	3	News Writing	_____
ENG 120	3	Introduction to Creative Writing	_____
ENG 211	3	Advanced Composition	_____
ENG 213	3	Advanced Technical Communication	_____
ENG 214	3	Introduction to Professional Writing	_____
ENG 216W	3	New Media Writing	_____
ENG 217	3	Advanced Reporting	_____
ENG 219W	3	Literary Analysis	_____
ENG 253	3	Creative Writing: Poetry	_____
ENG 254	3	Creative Writing: Fiction	_____
ENG 256	3	Creative Non-Fiction	_____
ENG 257	3	Advanced Creative Writing	_____
ENG 258W	2	Introduction to Screenwriting	_____
ENG 259W	3	Advanced Screenwriting	_____
ENG 260W	1	Writing Center Practicum	_____
IHU 267	3	Producing A Student Publication	_____
OAT 155W	2	Editing	_____
OAT 171	3	Document Processing: Beginning	_____
12		SUBTOTAL	

18/22 TOTAL CREDITS REQUIRED FOR GENERAL WRITING CERTIFICATE

1. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
2. Delta College reserves the right to modify graduation requirements.

Writing - Technical Writing - Certificate of Achievement

Program Code: CEA.35320

By completing this certificate, you will show future employers and educational institutions that you have a commitment to and competency with writing that goes beyond the required College Composition courses. While pursuing the certificate, you will have the opportunity to work in many different genres and forms of writing including technical writing, business writing, and creative writing. In addition, you will have hands-on opportunities to learn technologies that support writing's endeavor to communicate.

Required Courses

Course	Credits	Course Title	Completed
ENG ---	3	Any Approved College Composition I Course AND	_____
ENG 113	3	Technical Communication	_____
OR			
OAT 151	(3)	Business Communication I AND	_____
OAT 152	(3)	Business Communication II	_____
ENG 211	3	Advanced Composition	_____
OR			
ENG 253	(3)	Creative Writing: Poetry	_____
ENG 213	3	Advanced Technical Communication	_____
ENG 214	3	Introduction to Professional Writing	_____
OR			
ENG 216W	(3)	New Media Writing	_____
15	SUBTOTAL		

Elective Options (Select One)

Course	Credits	Course Title	Completed
ART 101	3	Photography I	_____
ART 271	3	Digital Imaging I	_____
ART 276	3	Electronic Page Design	_____
ART 279	3	Web Page Design Arts	_____
COM 114W	3	Interpersonal Communication	_____
COM 202W	3	Oral Communication for Managers	_____
CST 147	2	Electronic Media Communication	_____
2/3	SUBTOTAL		

17/18 TOTAL CREDITS

0. A "B" (3.0) minimum grade is required in all courses for the certificate.
2. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
3. Delta College reserves the right to modify graduation requirements.

Youth Services - Certificate of Achievement

Program Code: CSZ.35775

This certificate provides current and future youth care workers with the skills needed to work with juveniles in many different settings. The program is geared toward the human services field. Study areas focus on family dynamics and juvenile delinquency.

Required Courses

Course	Credits	Course Title	Completed
CJ 250	3	The Juvenile Offender	_____
PSY 211W	4	General Psychology	_____
PSY 223W	3	Child Psychology	_____
SOC 211W	3	Principles of Sociology	_____
SOC 221W	3	Marriage and Family	_____
SOC 250W	3	Introduction to Social Work	_____
SOC 300W	3	Interviewing, Counseling, and the Helping Relationship	_____

22 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. PSY 300W may be substituted for SOC 300W
3. SOC 300W prerequisite: ENG 111 or any approved College Composition I course.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation.
See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Youth Services - Advanced Certificate

Program Code: CSA.35775

This certificate provides current and future youth care workers with the skills needed to work with juveniles in many different settings. The program is geared toward human services field. Study areas focus on family dynamics and juvenile delinquency.

Required Courses

Course	Credits	Course Title	Completed
CJ 250	3	The Juvenile Offender	_____
PSY 211W	4	General Psychology	_____
PSY 223W	3	Child Psychology	_____
PSY 225W	3	Adolescent Psychology	_____
SOC 211W	3	Principles of Sociology	_____
SOC 212W	3	Social Problems	_____
SOC 215W	3	Sociology of Minority Groups	_____
SOC 221W	3	Marriage and Family	_____
SOC 231W	3	Cultural Anthropology	_____
SOC 250W	3	Introduction to Social Work	_____
SOC 300W	3	Interviewing, Counseling, and the Helping Relationship	_____

34 TOTAL CREDITS

1. A Grade of "C" (2.0) or higher is required in all courses for the certificate.
2. PSY 300W may be substituted for SOC 300W.
3. SOC 300W prerequisite: ENG 111 or any approved College Composition I course.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office by at least 3 months prior to expected graduation. See page 337 for other graduation requirements.
5. Delta College reserves the right to modify graduation requirements.

Gainful Employment Disclosure

Title IV regulations stipulate that eligible academic programs provide information to students regarding program costs, job placement rates, potential occupations, and median loan debt. Delta College provides this information for all eligible academic programs on the Delta College Gainful Employment Disclosure website at <https://public.delta.edu/communications/gainfulemployment>.

The information listed below is specific to the **Youth Services - Advanced Certificate**

Youth Services - Advanced Certificate

Total Program Cost (In District):	\$5,265.80
On-Time Completion Rate:	71.43%
Program Job Placement Rate:	Not Required
Median Loan Dept:	N/A



Non-Credit Programs

Delta College offers a variety of classes and programs designed to meet the needs of the diverse communities it serves through non-credit offerings. These programs and classes do not lead to a degree or certification but are designed to assist individuals with their personal and professional development.

Delta views education as a lifelong process that takes place in a wide variety of environments. Classes are taught on main campus, at Delta College Centers, in public schools, in industrial plants, in commercial office buildings, and at other locations.

The College is assisted by program advisory committees; professional, civic and church organizations; governmental agencies; business; the labor industry; and other groups in determining needs and providing education and training to the community.

LifeLong Learning

LifeLong Learning provides diverse, quality, professional development course offerings for nontraditional students interested in increasing their career based knowledge or enriching their lives. Special emphasis is placed on programs that expand Delta College's community engagement and outreach to make Delta the first choice to learn and grow.



Health

Delta College LifeLong Learning has a rich history of offering healthcare job training and professional development with its short term programs. Classes average between 10 and 12 weeks in length, are taught by local professionals, contain practical, hands-on experience, and several contain clinical experiences with local community partners.

Technical Trades & Safety

Quality job training, continuing education, personal enrichment, and exam preparation programs in the area of Technical Trades & Safety are offered to individuals currently working in industrial trades, those wanting to start a new career, or those that are simply interested in technical trades.

Business & Government

Delta College LifeLong Learning offers a wide variety of career training, professional development, state-approved continuing education, and exam preparation programs for business professionals, employers, and small business owners.

Life & Leisure

Life & Leisure programming offered through Delta College LifeLong Learning enhances personal growth and enriches the quality of life of our community members in the Great Lakes Bay Region.

Summer Camps

Delta College's academically based, innovative Summer Camps provide our community's youth the opportunity to build their skills in science, technology, engineering, math (STEM); arts; literature; and so much more. Campers learn skills to become better students, experience new things, and, of course, have fun! Experienced camp staff and instructors challenge campers through hands-on learning activities and provide them with a glimpse of life on campus. Summer Camps at Delta College are designed to inspire creativity and enthusiasm for learning.



Accessibility Assistance

Individuals needing accommodations to access programs, camps, or other non-credit events should contact the LifeLong Learning office.

Financial Assistance

Financial assistance may be available for students enrolling for LifeLong Learning short-term training programs through the Delta College Board of Trustees Grant. It is intended for individuals who are supported by some type of public assistance or those employed at a very low income level. Students must be residents of Bay, Midland, or Saginaw counties. Funds for this grant are limited. An application should be completed at least two weeks prior to expected enrollment. Applications completed later than this may not be considered. For an application, please visit the LifeLong Learning website at www.delta.edu/lifelonglearning.

Contact Delta College LifeLong Learning

Delta College LifeLong Learning

1961 Delta Road, H-Wing

University Center, MI 48710

www.delta.edu/lifelonglearning

lifelonglearning@delta.edu

Phone: (989) 686-9444

Fax: (989) 758-3639

Section IV

Academic Policies



Grading System

Grades

The grading system at Delta College is a letter system with associated grade points which are used to compute cumulative grade point averages. You will receive one final grade in each course taken.

Grade	Meaning	Grade points per credit
A	Excellent	4.0
A-	Excellent	3.7
B+	Good	3.3
B	Good	3.0
B-	Good	2.7
C+	Average	2.3
C	Average	2.0
C-	Below Average	1.7
D+	Poor	1.3
D	Poor	1.0
D-	Poor	0.7
F	Fail	0
P	Pass (C/2.0 grade or above)	- Not included in computing credits and grade points
I	Incomplete	
X	Audit	
WI	Instructor Initiated Withdrawal	
W	Withdrawal – No Evaluation	
NC	No Credit	

Note: Non Credit Courses also use the above letter grades for their courses; however, no grade points are awarded and grade point averages are not maintained.

Courses below 100 level are considered developmental and do not count toward credit hours earned, credit hours attempted, grade point average, or graduation.

Final Grades

Final grades are generally available to you within one week of the official ending date of each semester. They are available via the Web through MyDelta. Final grades are listed on your official academic transcript, which is maintained by the Registrar's Office. Your final grade is the responsibility of individual faculty members. Instructors may exercise their own prerogatives with respect to your grades as long as these prerogatives do not conflict with other institutional policies.

I - Incomplete

An instructor may assign an Incomplete grade if you have not fulfilled all course requirements when final grades are assigned. An Incomplete is a temporary grade given only when your work has been of **acceptable quality** near the end of the course, but the required amount has not been completed because of reasons satisfactory to the instructor.

Requirements of a course are to be completed no later than December 1 for Incomplete grades issued in the Winter and Spring/Summer Semesters and April 1 for Incomplete grades issued in the Fall Semester. In exceptional circumstances, additional time may be granted for completion of course work by written notification from the instructor to the Registrar.

X - Audit

- A student enrolling in a course for an audit may do so through the automated registration process or by completing an Audit Request Form in the Registrar's Office no later than the end of the Delta College official refund period. After that date, no courses may be converted from credit to audit or from audit to credit. The Registrar's Office will:
 - Inform the instructors of those students auditing their courses.
 - Inform the Financial Aid Office of those students electing to audit.
- When a student enrolls in a course as an auditor, the following will apply:
 - Tuition and fees will be paid as required.
 - Instructor audit objectives will be fulfilled.
 - A grade of "X" will be assigned and will not count in the Grade Point Average.
 - No credit will be earned.
- Once a student has elected to audit a course, the audit may not be converted to credit.

W - Withdrawal

This grade is used when you officially withdraw from a course from the 12th calendar day through the completion of 80% of the course. For information on the drop and withdrawal policies and procedures, see Section II, Enrollment, Registration.

WI - Instructor Initiated Withdrawal

This grade is instructor initiated for lack of course prerequisites or attendance until 80% of the course is completed.

Grade Change Procedure

Once recorded by the Registrar's Office, grades will be changed only if an official Grade Change Form is submitted online by the instructor and approved by the appropriate academic Dean. The Grade Change Form must be received **no later than one year following grade issuance**. This policy does not apply to grade changes under consideration via the Disputed Grade Policy.

P/NC - Pass/No Credit Option

The Pass/No Credit grade option is available for several courses at Delta College. If you are interested in this grading option in place of the usual "A" through "F" grading system, you should declare this choice at registration or **no later than** the completion of 80% of the course by completing a form online. Courses approved for the P/NC grade option are available online.

Guidelines and Procedures for P/NC Grades:

- Grades on the P/NC system are not included in computing the semester or cumulative grade point average.
- Grade of "P" (Pass): Credit is granted and represents performance at or above the "C"/2.0 level.
Grade of "NC" (No Credit): No credit is granted and represents performance at or below the "C-"/1.7 level.
- You may **not** apply more than a total of 12 credits of P/NC course work toward Delta graduation requirements.

- Enrollment on a P/NC basis is recorded with the Registrar's Office. No indication of your P/NC status will be communicated to a faculty member by any office of the College.
- A letter grade will be on file in the Registrar's Office, but only "P" or "NC" will appear on your transcript.
- If you desire to have any grades converted from P/NC to letter grades, you may do so by applying online **no later than the end of the following semester after the P/NC grade was issued.**
- Course prerequisites and other criteria for enrolling in any course are determined by the Department or Division offering the course and apply equally to both the traditional and the P/NC grading systems.
- If you are planning to transfer, you should first check with a Delta advisor/counselor regarding the acceptance of the P/NC grade option for specific courses by the transfer institution.

Grade Point Average (G.P.A.)

A student's Grade Point Average is determined by dividing the number of credits attempted into the grade points. For example:

	Attempted	Grade	Grade Points
ENG 111	3	B (3.0)	3x3=9
MTH 121	3	B (3.0)	3x3=9
BIO 111	4	C (2.0)	4x2=8
SOC 211	3	A (4.0)	3x4=12
	13		38
G.P.A. = 38 divided by 13 = 2.92			

Credits Attempted - Credits for which the student enrolled and for which grades of A through F were given. Credits for courses in which grades of NC, P, W, WI, I, and X are given are not included here.

Credits Earned - Includes all academic credits taken at Delta for which final grades of A through D- were recorded. Courses below 100 level are not included in credit hours earned.

Credits Transferred from other institutions or earned by examination are not included in cumulative averages.

Non-Credit Courses - Non-credit courses are not included in cumulative averages.

Grade Points - The number of grade points earned in a course is the number of credits multiplied by the number of grade points corresponding to the letter grade received. For example, a grade of B+ in a four-credit course equals 13.2 grade points ($3.3 \times 4 = 13.2$).

Repeated Courses - The highest grade received for any given course shall be the grade used in computing the cumulative grade point average and the number of credits shall only be counted once in the total number of credits attempted. All grades received in a given course shall, however, **remain on your academic transcript** but will be designated by the Registrar's Office as having been repeated, so it is clear that only the highest grades earned are being counted in cumulative totals.

You may not enroll in a course for credit or audit, whether completed or not, more than three times. Exceptions to this policy requires authorization by the appropriate Division Chair or Academic Dean.

Academic Transcripts

Your transcript is Delta College's official record of your work. Your record is updated at the close of each semester. Your academic record includes all academic courses attempted and completed (course titles, credit hours, final grades, and honor points, semesters enrolled, transfer credit accepted, credit awarded by examination or advanced placement, certificates/degrees awarded and honors. Other items included may also include academic probation, suspension, expulsion, or other dismissal status where appropriate based on academic, conduct or Title IX viola-

tions. Grades of most non-credit course work are also maintained by the Registrar's Office. Transcript copies will not be furnished if you have delinquent accounts with the College or as specified by the student handbook or other institutional policy.

Attendance Policy

It will be necessary for certain groups of students (e.g., veterans, financial aid recipients) to adhere to attendance requirements imposed by the policies of external regulatory agencies beyond the following stipulated by Delta College:

- Attendance is expected at all courses for your maximum achievement.
- It is your responsibility to make arrangements for missed course work.
- The College recognizes that on occasion special College-connected events will conflict with scheduled course/laboratory times. Before those special occasions, you will need to work with the instructor to make alternate arrangements.
- Individual instructors determine attendance rules and will explain those rules at the initial course meeting and/or in the course syllabus.

Change of Student Information

A change in your name, home address, e-mail address, or program needs to be reported immediately to the Registrar's Office or the Admissions Office. Most communications will be sent to your Delta e-mail address. Legal name changes, other than marriage, or a Social Security number change require proper documentation.

Classification of Students

The classifications below apply only to academic students pursuing certificate or associate degree programs. Non credit course hours are not included.

Freshman	29 or fewer credits earned
Sophomore	30 or more credits earned
Full-Time	Enrolled in 12 or more credits during a semester
Part-Time	Enrolled in 6-11 credits during a semester

Financial Aid Attendance Information

A student receiving Federal aid who ceases attendance prior to the end date of the semester will be subject to a Title IV Return of Funds recalculation. Depending on your last date of attendance, your financial aid for the semester in question may be adjusted.

Unearned financial aid is returned to programs according to Federal guidelines. Funds are returned in the following order: Federal Loan Programs, Federal Pell Grant, Federal SEOG, and to other Title IV aid programs. You will be responsible for repaying any unearned aid that you were not entitled to receive that results in a balance owed to Delta College. You must make arrangements with Delta College to repay the unearned funds in full.

On the Web: www.delta.edu/financial-aid-office/attendancepolicy

Semester Honors

Each semester a President's List is issued of all students who receive a grade point average of 4.0 for that semester; a Vice President's List for all students who receive 3.7 through 3.99 grade point averages; and a Dean's List of students who receive 3.5 through 3.69 grade point averages. To be eligible, you must complete at least 6 credit hours in a Fall, Winter or Spring/Summer Semester. Courses taken on the Pass/No Credit option do not apply.



Disputed Final Grade Policy

Student Guide For Disputed Final Grade

The process involved in deciding to pursue a remedy to a final grade that you are disputing is not easy. Because of the emotional stress and strain that may accompany this process, you should follow these basic steps toward evaluating whether there is factual merit to your dispute and how you need to organize the facts so that others involved might agree with your dispute and support a resulting change in your final grade.

Because Delta is a college-level adult environment, our philosophy is that students are self-sufficient, independent and responsible participants in the interactive, give-and-take, and subjective learning process. There is a human element on the side of the student and on the side of the instructor in every class situation. The human element means that portions of a final grade that may be subjective in nature are always the prerogative of the instructor.

A grade dispute must be based on correctable items or issues. For example, you must be able to point to concrete factors that have affected your final grade—points were left out of the grading total, an exam, project or presentation was scored incorrectly or not counted in the final tally; a project or some extra-credit work did not get factored into the final point total, etc. Examples like these can be verified or discovered by the instructor and/or division chairperson as they respond to your dispute.

Since a final grade assignment is made on an individual basis, the dispute procedure can only be used by an individual questioning his or her own grade and cannot be used by one individual on behalf of a group of individuals.

Grounds for Appeal:

There are only three grounds for a student grade appeal, and any of these grounds may be sufficient to warrant an appeal.

1. The assignment of a grade using standards other than that described on the course outline, syllabus, appropriate addendums or program handbooks.
2. The assignment of a grade using a method other than that used for the other students in the class.
3. The assignment of a grade in a manner inconsistent with College policy, rules and regulations.

Evaluation Strategy 1:

Your first step when considering a final grade dispute should be to re-visit the course syllabus and compare its elements to where you believe an error in grading occurred. The initial syllabus is very important to your evaluation of how or whether to proceed. It was your “roadmap” for the course and should contain the expectations, standards, and measurements regarding how a final grade would be achieved. In this evaluation you should be able to break your grade down into its various pieces, quizzes, papers, projects, presentations, exams, and elements of class attendance requirements and participation.

Evaluation Strategy 2:

When considering a dispute, this part of your evaluation is critical. You need to understand that learning style differences, needing a certain grade for transfer, meeting a prerequisite, or simply needing or expecting to do better in a course, are not disputable elements. These elements may have had a legitimate impact on your final grade, but it is expected that they would have been addressed much earlier in the course experience and in ways that would support the college-level independence, self-sufficiency and personal responsibility pointed out earlier.

Evaluation Strategy 3:

If after careful self-reflection in steps 1 and 2 you believe that the appeal of your final grade is still solid and tangible, then you should go to the more official step of notifying the Grade Ombudsman, Zachary Ward Phone (989) 686-9590 or email zacharyward2@delta.edu. The following outlines the basic steps and timelines contained in the Disputed Final Grade Policy, 4.025. A complete copy is available from the Grade Ombudsman.

Informal Process

A student who wishes to discuss concerns regarding a final grade will contact, in order, the faculty member, the division Chair, and the Academic Dean. The student must start the informal process no later than 10 days following the date the grade was due. At no time may the informal process extend beyond 25 days after the college due date for submission of final grades. The faculty member and the student will attempt to resolve the differences. The division chair may be asked to assist with the conflict resolution. The Academic Dean will review the merits of the appeal and make any necessary referrals to the appropriate person if a process is to continue. The Grade Ombudsman may be consulted at any stage of the process.

Formal Process

1. To formally appeal a final grade for a course, the student must contact the Grade Ombudsman within 5 days after the conference with the Academic Dean.
2. The student will write, within five days of meeting with the Grade Ombudsman, a one to three page formal word processed statement that explains the circumstances of the disputed grade. The statement will be given to the faculty member by the Ombudsman.
3. The faculty member will write a one to three page formal word processed statement of response and submit it to the Grade Ombudsman within five days of receiving the student's statement.
4. The grade Ombudsman will supply the student with a copy of the faculty member's statement and supply the division chair with a copy of both the student's and instructor's statement.
5. The Grade Appeal Board is composed of seven members: four faculty members, (three appointed by the Faculty Executive Committee and one appointed by the chair from the Division which offers the course in which the grade is being appealed); the appropriate academic dean; one Student & Educational Services representative appointed by the Vice President of Student & Educational Services; and one student from the Student/Senate Liaison Committee, appointed by the Senate President.
6. The Grade Appeal Board will meet within 10 days of receiving the appeal at a time when both parties are available to respond to the Board's questions. Under special circumstances, alternates may be appointed to the Grade Appeal Board by the person originally responsible for the appointment of that position.
7. By majority vote, the Grade Appeal Board will make one of the following decisions within two days of the meeting:
 - The appeal is dismissed and the grade remains.
 - The grade dispute is resolved by changing the grade, or changing the grade under specific conditions. All members of the Board will determine if the grade should be changed and the faculty members on the Board will decide the specific grade to be awarded.
8. Decisions reached by the Grade Appeal Board may be appealed to the President of the College. The President will only hear appeals that involve claims of procedural mistakes made in the process defined above. The President may:
 - Dismiss the appeal
 - Return the case to the Grade Appeal Board for rehearing.



Academic Achievement Standards

1. A minimum cumulative grade point average (GPA) of "C" (2.0) must be achieved to graduate with an associate degree or certificate.
2. A student making **Satisfactory Progress** is defined as:
 - a. Satisfactory/No Conditions - A student whose cumulative GPA satisfies the **Academic Status Scale**.
3. A student making **Unsatisfactory Progress** is defined as:
 - a. Academic Caution - A student whose cumulative GPA satisfies the Academic Status Scale but is below 2.0 and the credit hours attempted are less than 45.
 - b. Academic Probation - A student who has attempted 13 or more credit hours and whose cumulative GPA is below the required GPA as indicated on the **Academic Status Scale**.
 - c. Academic Suspension - A student who has been on probation for at least two academic semesters or who has not met the conditions of their **Academic Improvement Plan**.

Table for Determining Academic Status

Following is the table for determining your academic status at Delta College. To use the table: 1) locate on your grade report or academic transcript your cumulative grade point average and the total number of credits attempted; 2) find the corresponding credits attempted in the left-hand column of the table; and 3) read across the page to your right until you locate the column which includes your current cumulative grade point average. This column heading indicates whether you are making Satisfactory Progress or are on Academic Probation.

Academic Status Scale

Credit Hours Attempted	Unsatisfactory Progress		
	No conditions	Caution	Probation
	GPA	GPA	GPA
0 - 12.9	1.50 - 4.0	0.00 - 1.49	
13.0 - 23.9	1.75 - 4.0	1.50 - 1.74	0.00 - 1.49
24.0 - 44.9	2.00 - 4.0	1.75 - 1.99	0.00 - 1.74
45.0 or more	2.00 - 4.0		0.00 - 1.99

Procedures for Academic Caution, Probation, and Suspension

I. ACADEMIC CAUTION:

Following each semester, students are notified of their status by the Registrar. Caution students are required to discuss their academic status with a counselor or academic advisor and will be **required** to develop an Academic Improvement Plan (AIP)¹ with a counselor. An approved AIP must be on file before students will be allowed to register.

II. ACADEMIC PROBATION:

After each semester's grades have been posted, students placed on probation will be notified of their status by the Registrar and will be **required** to develop an Academic Improvement Plan (AIP)¹ with a

Counselor. An approved AIP must be on file before students will be allowed to register.

III. ACADEMIC SUSPENSION:

Students on Academic Probation for at least two semesters, who have not met the conditions of their AIP, will be notified of their status by the Registrar's Office. They will be denied enrollment for two consecutive semesters and will also be *dropped* from classes in which they have already registered for upcoming semesters.

1. Students placed on suspension who may have mitigating circumstances² may appeal their suspension to the Registrar or his/her designee. If the appeal is successful an AIP will be required prior to registration.
2. Students who wish to enroll *following two semesters on suspension* will be required to meet with an assigned counselor and have a new AIP on file in the Registrar's Office prior to registering.

¹ ACADEMIC IMPROVEMENT PLAN (AIP)

An Academic Improvement Plan is an agreement that specifies actions to be taken by the student. It includes such things as:

- Specific course selection that will provide for maximum success.
- Number of credits to attempt that semester (based on data presented by student) and approved by their counselor.
- Assistance e.g. tutoring, selecting peer mentored classes, meeting with instructor.
- Time management strategies.
- Other services as appropriate including Disability Resources, Counseling, Career Services, etc.

² MITIGATING CIRCUMSTANCES

Mitigating circumstances are *documented* conditions beyond the reasonable control of the student that will have a *long-term* effect. Students considering an appeal must first consult with their Counselor.

ACADEMIC FRESH START APPEAL POLICY

Former students re-enrolling after an absence from Delta College of two or more years may submit a request to the Registrar to have their grade point average recomputed using only those grades earned after re-enrollment. A minimum of six credits must be completed before the grade point average will be recomputed. Students are required to meet with a Delta College Counselor or Academic Advisor before submitting an Academic Fresh Start Appeal application. Academic Fresh Start Appeal applications will be available in the Counseling Office and processed by the Registrar's office. Consulting with a Financial Aid Advisor is also recommended as Financial Aid appeals have distinct guidelines and are a separate policy from Academic Fresh Start.

- I. All courses taken at Delta College will remain on the student's permanent records/transcripts. All course grades prior to re-enrollment will be converted to P/NC (Pass/No Credit) grades. Courses with grades of A, A-, B+, B, B-, C+ and C will become P grades with credit; all other course grades will become NC grades without credit.
- II. Students may be granted an Academic Fresh Start Appeal only once. The cumulative grade point average and Academic Achievement policy conditions will be computed using all grades earned from the point of re-enrollment. Students may request specific semesters to be considered for re-computation. Students must consult with a counselor or academic advisor before submission of the appeal.

III. Regardless of the number of "P" grades resulting from this policy, a maximum of twelve credits of "P" grades may be applied towards graduation requirements.

Board Action 4972 – November 13, 2012

Amended by Board Action 3677 – November 14, 1995

Amended by Board Action 3467 – December 14, 1993

Board Action 2530 – May 13, 1986

Standards of Academic Progress for Financial Aid Recipients

Students must be making satisfactory academic progress toward the completion of an eligible certificate or associate degree to be eligible for financial aid.

Standards of Academic Progress for Financial Aid Recipients are applied to all students receiving financial assistance after they have attempted 12.9 credits at Delta College. All semesters and courses in which students registered at Delta College are included in determining satisfactory academic progress, regardless of whether or not the students received financial aid for those semesters and courses.

I. Standards of Academic Progress for Financial Aid Recipients

- A. Making satisfactory academic progress is defined as earning a cumulative grade point average (GPA) consistent with the Academic Status Scale below. In calculating the GPA on this scale, all credits for which students ever enrolled at Delta College are included (grades A through F, P, NC, I, W, and WI, plus all repeated courses).

ACADEMIC STATUS SCALE

Attempted Delta Credits	Minimum GPA Required
0-12.9	0.00
13-23.9	1.50
24-44.9	1.75
45 or more	2.00

- B. Making satisfactory academic progress is also defined as having satisfactorily completed more than 67% of all credits in which students have ever enrolled at Delta College.
1. Grades of A, A-, B+, B, B-, C+, C, C-, D+, D, D- or Pass are considered to be satisfactory completions.
 2. Grades of W, WI, NC-No Credit, I-Incomplete, and F-Failure are not considered to be satisfactory completions.
 3. For students with repeat grades, the lower grade is considered to be an unsatisfactory completion and the higher grade is considered to be a satisfactory completion.
 4. For students choosing the Academic Fresh Start option, grades changed to P are considered to be satisfactory completions. Grades changed to NC are not considered to be satisfactory completions. (Students choosing this option should be aware that grades of C-, D+, D, and D-, which are considered as satisfactory completions, will be converted to NC grades, which are not considered to be satisfactory completions.)
- C. Satisfactory academic progress also requires that financial aid recipients complete the certificate or associate degree within a time frame which, by federal regulation, is 150% of the published length of the program. For example, if a student is in an Associate degree program that requires 62 credits, the degree must be completed in a maximum of 150% of 62 credits, or 93 credits including both attempted and completed credits. (Students should consult the Delta College Catalog, Section III, Programs of Study, to find the number of credits required in their certificate or associate degree program, then multiply that number by 1.5 to determine the maximum number of credits.)
1. When students reach the maximum number of credits in their program of study, financial aid will be terminated anytime during the academic school year.

2. All semesters are taken into consideration when determining the maximum number of credits, whether or not students received aid during those semesters.
3. All grades (A through F, P, I, NC, W, and WI) and repeated courses are counted in determining the maximum number of credits.
4. Transfer credit must be taken into consideration when calculating the maximum number of credits for an associate degree and for a certificate.

Academic records of aid recipients are reviewed by the Financial Aid Office prior to awarding for the standard academic year (Fall and Winter Semesters) to ensure that Standards of Academic Progress for Financial Aid Recipients continue to be met. Records are reviewed again prior to awarding for the Spring Semester. Additionally, academic records for loan recipients are checked prior to each disbursement. Students receiving aid whom the College places on Academic Probation between reviews will maintain their aid eligibility (but not their loan eligibility) for the probational semester(s) until the next review, providing them with the opportunity to improve their academic records and once again meet Standards. If standards of academic progress for financial aid recipients are not met at the time of the next review, financial aid will be terminated.

II. Appeals

- A. Students who have been terminated from further financial aid for failure to meet Standards of Academic Progress have the right to appeal. All appeals must be submitted in writing on the Satisfactory Academic Progress Appeal Form to the Financial Aid Office. Please check with the Financial Aid Office for semester appeal priority dates. Students submitting appeals should state the reasons why satisfactory progress was not made and discuss actions that have been or will be taken to make satisfactory progress in the future. **Documentation supporting the reasons for the appeal must be attached. Appeals submitted without documentation will not be considered.** Mitigating circumstances beyond the reasonable control of students, such as injury or illness, death of a relative, or other special circumstances may be grounds for successful appeals. You must meet with an academic counselor/advisor to create an academic plan, which you are required to follow. Please attach a copy to your appeal.
1. If appeals are approved, students will receive an additional probational semester of aid during which they must follow their approved academic plan (submitted with the appeal form). Students must also EITHER complete all courses in which they register with grades of C (2.0) or better (no C-, D+, D, D-, F, or NC grades), and with no withdrawals (W or WI) and no Incompletes (I), OR once again meet the Delta College Standards of Academic Progress for Financial Aid Recipients. At the end of the semester, both grades and academic plans will be checked to ensure students registered for only the courses on their approved academic plan.
 2. If students have met the Standards of Academic Progress for Financial Aid Recipients, aid will once again be awarded. If students have not met these Standards, but have met the conditions stated in No. 1 above, further aid will be granted on a probational semester-by-semester basis. Grades will be checked at the end of each semester before aid is awarded for the next semester to ensure that students are continuing to make academic progress. This process will continue until such time as the student once again meets the Standards of Academic Progress for Financial Aid Recipients. If it should be found that students have not made academic progress during one of these probational semesters, aid will be denied and the students will have to attend at their own expense until such time as the Standards of Academic Progress for Financial Aid Recipients are once again met.
- B. A second Standards of Academic Progress appeal may be submitted to the Director of Financial Aid if a student has additional documentation for consideration. The Director's decision regarding the second appeal will be considered final.

Graduation Requirements



Degrees and Certificates Granted by Delta College

- Associate in Arts
- Associate in Science
- Associate in Fine Arts
- Associate in Applied Arts
- Associate in Applied Science
- Associate in General Studies
- Associate in Business Studies
- Dual Degree
- Certificate of Completion
- Certificate of Achievement
- Advanced Certificate
- Post Associate Certificate

Statement of General Education

Delta College is committed to general education for our community college students. General education develops basic knowledge, critical thinking skills, and values that influence our behavior and motivate us as lifelong learners. Delta College, along with area employers, transfer institutions, and the greater community, agrees that general education is key to personal and professional success.

Students are prepared for 21st century challenges at the level of an associate degree by successfully completing courses required for their degrees. In doing so, students will meet these general education competencies:

1. **Think Critically:** Produce a defensible conclusion or solution using critical or creative thinking.
2. **Communicate Effectively:** Communicate effectively in oral, written, or symbolic expression.
3. **Think Civically:** Demonstrate an understanding of diverse societies, ranging from local to global, in order to engage effectively in civic life.
4. **Cultivate Wellness:** Demonstrate an understanding of wellness principles to promote physical and personal health.
5. **Utilize Technology Effectively:** Solve a problem or accomplish a task using technology.
6. **Reason Quantitatively:** Use quantitative information or analyze data within context to achieve meaningful results.

Basic Requirements

1. Earn a minimum cumulative grade point average of "C" (2.0) in the courses required to complete a specific associate degree or certificate.
2. Fulfill all of the prescribed requirements of the degree or certificate including courses, credit hours, grades, and/or hours of attendance. See Section III, Programs. (Courses numbered below 100 do not count toward any associate degree or certificate.)
3. Successfully complete "key courses," if applicable, in a program within a stated timeframe. Students may, therefore, need to repeat certain courses, even though a passing grade was previously earned.
4. File an application for an associate or dual degree and/or certificate with the Registrar's Office at least three months before your anticipated graduation date.
5. Fulfill all financial obligations to Delta College.
6. The number of "P" (pass) credits applied to a degree or certificate must not exceed 20% of total required credits of the degree or certificate and must not exceed 12 credits.
7. For certificates, a minimum of two-thirds (2/3) of program credits or 24 credits, whichever is less, must be earned at Delta College. Any programmatic exceptions to the two-thirds (2/3) or 24 credit requirement will be approved by the Curriculum Council and identified in Section III, Programs.
8. For associate degrees, a minimum of sixty-two (62) credits hours must be earned. A minimum of twenty-four (24) credit hours must be Delta College academic credits.

Courses designated by an "H" (for Honors), "C" (for courses that require co-registration in another course), "W" (for Writing), and "SL" (Academic Service Learning,) are considered course variations of a regular course and incorporate the same course content. Course variations are considered equal in meeting graduation requirements and prerequisites. Lab courses designated by an "L" are not considered a course variation.

Continuous Attendance

If your attendance has been continuous in the same program you may, for the purpose of graduation, elect either the program in effect at the time of your first registration at Delta or the program in effect at the time of your application for graduation. Continuous attendance is defined as attending a minimum of one semester during each academic year since your first registration or when you officially declared your program of study. If your attendance has been continuous, you must follow the program in effect at the time of your reactivation to Delta College.

Michigan Transfer Agreement

Completion of requirements for the Associate of Arts Degree, Associate in Science Degree or Associate in Fine Arts may fulfill the requirements for the Michigan Transfer Agreement. Please see page 31 in this catalog for an overview of these agreements.

It is highly recommended that all students consult with a representative of Admissions and/or Counseling/Advising & Career Services regarding transfer plans and course planning to ensure all course selections fulfill articulation and degree plans. It is also recommended that you review and work closely with your intended transfer institution to align all courses taken at Delta College to the general education and program specific requirements for the college or university you wish to attend after Delta College.

Michigan Transfer Agreement (MTA) Course Distribution Requirements (min of 30 credits) must be completed from distribution below.
Note: A minimum grade of "C" (2.0) is required in all MTA courses.

English Composition, minimum one (1) course:

- ENG-111, ENG-111A, ENG-111B, ENG-111C, ENG-111H, ENG-112, ENG-112A, ENG-112H, ENG-113 or ENG-211

Second Course in College Composition or one (1) course from Communication; minimum one (1) course:

- ENG-111, ENG-111A, ENG-111B, ENG-111C, ENG-111H, ENG-112, ENG-112A, ENG-112H, ENG-113 or ENG-211 • COM (any)

Mathematics, minimum one (1) course:

- MTH-118W, 120, 121, 122W, 151, 153, 160, 161, 162, 208W, 209W, 260, 261, 263, 264 or 290 – 299

Social Sciences, from two (2) disciplines, minimum two (2) courses required from following:

- Biology (BIO): BIO-230W *only
- Economics (ECN): All
- History (HIS): All; HIS-111W & 112W may be counted as either a Humanities or a Social Science, but not both.
- Geography (GEO): All except GEO-103W, 111, 261 & 267
- Interdisciplinary Humanities (IHU): IHU-110W only
- Political Science (POL): All
- Psychology (PSY): All
- Sociology (SOC): All except SOC-158, 159, 161 & 162
- Social Science Interdisciplinary (SSI): All, may be counted as either a Humanities or a Social Science, but not both.
- Technical Trades Interdisciplinary (TTI): TTI-100W only

Humanities & Fine Arts, from two (2) disciplines, minimum two (2) courses:

- American Sign Language (ASL): All
- Art (ART): ART-151W, 152W, 251W or 255W only
- Communication (COM): All
- Electronic Media Broadcasting (EMB): EMB-140, 175W 211W or 229 only
- English (ENG): All except: ENG -111, 111A, 111B, 111C, 111H, ENG-112, 112A, 112C, 112H, ENG-113 or ENG-211
- French (FR): All
- German (GR): All
- History (HIS): HIS-111W & HIS-112W *only; HIS-111W &

112W may be counted as either a Humanities or a Social Science, but not both.

- Interdisciplinary Humanities (IHU): All, may be counted as either a Humanities or a Social Science, but not both.
- Music (MUS): MUS-100, 103, 110, 111, 112, 118, 119W, 120W, 126 or 127 only
- Philosophy (PHL): All
- Psychology (PSY): PSY 232
- Spanish (SPA): All
- Social Science Interdisciplinary (SSI): SSI-110W, 232W & 234W only; may be counted as either Humanities or a Social Science, but not both.

Natural Sciences, from two (2) disciplines, minimum two (2) courses including one (1) with a laboratory experience.

Natural Sciences Courses that count as a lab science (choose at least one [1]):

- Astronomy (AST): AST-111L provided credit has been earned for AST-111
- Biology (BIO): Any BIO that is at least three (3) credit hours excluding: BIO-101W, 230W*, 274 and 290 - 299
- Chemistry (CHM): All excluding: CHM-210, 220, 221, 231 and CHM-290 – 299
- Geography (GEO): GEO-103W and GEO-111
- Geology (GLG): GLG-111, 112, 118, 130, and 230
- Physical Science (PSC): PSC-101 and PSC-102
- Physics (PHY): PHY-101, 111, 112, 211 and 212

Natural Science Courses which do not count as a lab science:

- Astronomy (AST): AST-111, AST-290 – 299
- Biology (BIO): BIO-101W, 230W*, BIO-290 -299 or any BIO course which is only one (1) or two (2) credit hours.
- (CHM): CHM-210, 220, 221, 231, CHM-290 – 299
- Environmental Science (ENV): ENV-310W & 320W only
- Geography (GEO): GEO-261 & 267 only*
- Geographic Information Systems (GIS): GIS-101
- Geology (GLG): GLG-102, 115, 122, 123, 125, 262W, 266, 267, 268 and GLG-290 – 299
- Interdisciplinary Science (SCI): SCI-250 and SCI-290 –299 only
- Physical Science (PSC): PSC-290 – 299
- Physics (PHY): PHY-213 and PHY-290 – 299
- Sociology (SOC): SOC-230W only*

* Note: HIS -111W & 112, may be included in either Humanities or Social Sciences groups, but may not be counted in both. BIO- 230 & SOC 230 may be included in Social Science or Natural Sciences, but may not be counted in both. Credit may be earned in PSY-300 or SOC-300 but not both.

Group Requirements for Associate in Arts and Science Degrees

Many students earning the Associate in Arts or Science transfer on successfully to four-year colleges or universities. Completion of requirements for either the Associate in Arts Degree or the Associate in Science Degree may fulfill the requirements of the MTA Articulation Agreement. This agreement facilitates transfer of Delta College courses to participating colleges and universities. Information on the MTA Articulation Agreements can be found on page 31 and 338.

Specific major program requirements and acceptable courses within the group requirement areas differ among transfer colleges and universities. You must complete courses from at least two subject areas listed in each of Groups I, II, and III. "All" includes courses numbered 100-299; courses below 100 are excluded. Courses listed in more than one group may only be counted once.

Associate in Arts (A.A.)

Note: For specific course listings, please see page 49 for program information.

1. Fulfill all Basic Requirements.
2. Satisfactorily complete three (3) credits in College Composition I or an approved equivalent.
3. Successfully complete three (3) credits in College Composition II, or an approved equivalent.
4. Successfully complete a minimum of eight (8) credits in each of
 - a) Group I (Humanities): Communications and one other discipline.
 - b) Group II (Social Sciences): Foundational Civics and one other discipline.
 - c) Group III (Science): Complete two Natural Science courses, including one lab science course of at least fifteen contact hours and one Mathematics course.
5. Successfully complete one of the following Civic Engagement options in addition to the Foundational Civics courses.
 - a) Designated Service Learning course across the curriculum (SL will appear after the courses designation).
 - b) A Social Science Civic Engagement project (1 credit). A Faculty member must supervise this project, either as a project tied to a course, or as individualized instruction.
6. Successfully complete six credits in writing-across-the-curriculum (W will appear after course designation).

Note: Students with previously-earned Baccalaureate, or higher, degrees, from regionally accredited colleges and universities are exempt from this policy.

7. Successfully complete a minimum of two (2) credits of Lifelong Wellness.

Note: Students can meet the LWA activity course requirements with a current, nationally recognized personal training or group fitness instructor certification or military experience. The LWA requirement can be met with validated participation in a full season of intercollegiate athletics. Students with a documented disability may also obtain a waiver for the activity course through Disability Resources.

Associate in Science (A.S.)

Note: For specific course listings, please see page 51 for program information.

1. Fulfill all Basic Requirements.
 2. Satisfactorily complete three (3) credits in College Composition I or an approved equivalent.
 3. Successfully complete three (3) credits in College Composition II, or an approved equivalent.
 4. Successfully complete a minimum of eight (8) credits in each of Groups I and II. Successfully complete a minimum of twenty (20) in Group III.
 - a) Group I (Humanities): Communications and one other discipline.
 - b) Group II (Social Sciences): Foundational Civics and one other discipline.
 - c) Group III (Science): Complete two Natural Science courses, including one lab science course of at least fifteen contact hours and one Mathematics course. The remaining credits can be taken from Science Electives including Natural Science, Mathematics, and Computer Science classes.
 5. Successfully complete one of the following Civic Engagement options in addition to the Foundational Civics.
 - a) Designated Service Learning course across the curriculum (SL will appear after the courses designation).
 - b) A Social Science Civic Engagement project (1 credit) A Faculty member must supervise this project, either as a project tied to a course, or as individualized instruction.
 6. Successfully complete six credits in writing-across-the-curriculum (W will appear after course designation).
- Note:** Students with previously-earned Baccalaureate, or higher, degrees from regionally accredited colleges and universities are exempt from this policy.
7. Successfully complete a minimum of two (2) credits of Lifelong Wellness.

Note: Students can meet the LWA activity course requirements with a current, nationally recognized personal training or group fitness instructor certification or military experience. The LWA requirement can be met with validated participation in a full season of intercollegiate athletics. Students with a documented disability may also obtain a waiver for the activity course through Disability Resources.

Associate in Applied Arts (A.A.A.)

Associate in Applied Science (A.A.S.)

Associate in Business Studies (A.B.S.)

Associate in Fine Arts (A.F.A.)

1. Fulfill all Basic Requirements.
2. Satisfactorily complete all courses listed in one of the Delta College occupational curricula. See Section III, Programs.
3. Successfully complete six (6) credits in content-area writing courses.

Note: Students with previously-earned Baccalaureate, or higher, degrees from regionally accredited colleges and universities are exempt from this policy

4. Successfully complete two (2) credits of Lifelong Wellness:

LW --- (2 credits), or LW --- (1 credit) and any LWA course (1 credit), or LW 206A, LWA 206B, and LWA 206C for occupational programs (2 credits) or LWT-210, LWT-230, LWT-240, LWT-242 LWT-251 (3-4 credits)

5. Successfully complete an approved course in Foundational Civics:

POL-103W, 104W, 212W, 215W, 220W, 221W, 223W, 225W, 228W, HIS-221W, 222W, or 237W.

Associate in General Studies (A.G.S.)

This degree will meet your needs if your goal is self-enrichment and you are not following a specific occupational or transfer program. All courses offered for academic credit at Delta College are applicable to this degree as per course descriptions. Because of the limited transferability, or in some cases non-transferability, of this degree, it is strongly suggested that you discuss this option with a counselor/advisor and consider fulfilling the Group Requirements.

1. Fulfill Basic Requirements Nos. 1, 2, 4, 5, 6, and 8.
2. Successfully complete six (6) credits in content-area writing courses.

Note: Students with previously-earned degrees from regionally accredited colleges and universities are exempt from this policy.

3. Successfully complete an approved course in Foundational civics. POL-103W, 104W, 212W, 215W, 220W, 221W, 223W, 225W, 228W, HIS-221W, 222W, or 237W.

Associate Degree Requirements for Subsequent, Concurrent, and Dual Degree(s)

Associate Degree(s) can be earned concurrently or following other earned degree(s).

A. Subsequent Associate Degree Requirements

Students may earn a Delta College associate degree after previously earning an associate or higher degree from a regionally accredited college or university.

1. Writing, Lifelong Wellness and Government graduation requirements will be waived for candidates with a Baccalaureate or higher degree from a regionally accredited institution unless occupational curricula competencies specify otherwise.
2. Fulfill all Basic Degree requirements.
3. Satisfactorily complete a planned curriculum in one (1) degree, with the exception of the Associate in General Studies.
4. Earn a minimum of twenty-four (24) additional semester hours of credit by instruction at Delta College. Accordingly, the minimum number of credits earned must equal the credits required for the first degree plus 24 additional credits.

B. Concurrent Degree Requirements

Students may earn two Delta College associate degrees concurrently. While working on one degree at Delta College, students may complete courses applied to a second associate degree. Therefore, credits earned beyond those needed for the first degree may be applied toward the second degree.

1. Fulfill all Basic Degree requirements.
2. Satisfactorily complete a planned curriculum in two (2) degrees, with the exception of the Associate in General Studies.
3. At least 48 credits must be earned at Delta College: 24 credits to

meet the residency requirements of the first degree, and 24 credits to meet the residency requirements of the concurrent degree.

C. Dual Associate Degree Requirements

Dual degrees are available for students in several fields. Requirements are generally completed concurrently. The Counseling and Advising Office has a listing of approved Dual Degrees. Also see Section III, Programs, Dual Degrees.

1. Fulfill all Basic Degree requirements.
2. Satisfactorily complete all courses listed in one (1) of the Delta College curricula approved for the Dual Degree.
3. Satisfactorily complete a minimum of an additional twenty-four (24) semester hours as prescribed for the Degree. Accordingly, at least 48 credits must be earned at Delta College: 24 credits to meet the residency of the first degree, and 24 additional program credits.

Commencement



One of the most memorable moments in your life will be receiving your certificate or associate degree from Delta College. You will want to attend Commencement, which will highlight this special moment for you and your family. Give your family and friends the special pleasure of seeing you graduate from Delta College.

Although you may complete graduation requirements at the end of the Fall or Spring Semester, commencement ceremonies are only held once a year at the end of the Winter Semester. Diplomas however, are mailed to you by the Registrar's Office approximately four weeks after the end of the month in which you complete your requirements.

The Commencement Program and your academic transcript will carry special designations if you complete your associate degree with an outstanding academic record according to the following cumulative grade point averages:

- 3.50 -3.69 Honors
- 3.70 -3.89 High Honors
- 3.90 -4.00 Highest Honors

Transfer students are eligible for graduation honors if they have completed at least twenty-four (24) credit hours of a curriculum at Delta College.

Graduate Student Awards

Outstanding students are recognized each year for their academic achievement and leadership while in attendance at Delta College. These awards are sponsored by individuals, businesses, and organizations that are committed to the Delta College community. The Graduate Student Award Ceremony and Reception is held the week of Commencement each spring. Award recipients are presented with an individual plaque, have their name inscribed on a group plaque for display in a Delta College showcase, and are presented a cash honorarium. Award application information is available from the Vice President of Students and Educational Services Office (B-137) in mid-January. Recipients are strongly encouraged to attend the ceremony.

Candidates are encouraged to apply for an award and MUST meet the following criteria for the current academic year.

- Already graduated with an associate degree in the proceeding months of May – December OR
- Graduating with an associate degree in January-April. Application for Graduation must be submitted to the Registrar's Office to be eligible.
- Recipient may not win the same award twice.

Items considered by all Award Selection Committees:

- Delta College Cumulative Grade Point.
- Delta College Grade Point in coursework directly related to specific award.
- Community involvement active participation in volunteer associations, and college clubs and organizations, church clubs and associations, and independent volunteerism examples.
- Letters of recommendation from faculty/staff, supervisors, and volunteer coordinators.

Award Descriptions:

Board of Trustees Award

Presented to graduates who have earned a 4.00 Cumulative GPA and a minimum of 45 graded credits. (Does not include TR or TB-transfer, P- Pass, CR –credit by portfolio or articulated grades)

William R. Collings Award of Excellence–Highest Recognition Award

The Outstanding Achievement, Leadership Potential and Service Graduate Award was established by Dow Corning Corporation of Midland,

in memory of Dr. William R. Collings. Dow Corning Corporation was formally established in 1943, and Dr. Collings was named company's first general manager, later serving as president from 1954 to 1962. He was also a Charter Member of the Delta College Board of Trustees, and served on the Board from 1957 to 1976. The Dr. William R. Collings Award of Excellence has been given out since 1986 in memory of Mr. Colling's wise and generous counsel and superior leadership as president of the Dow Corning Corporation. This award recognizes academic achievement and superior citizenship. The graduate must have an excellent academic record and potential for outstanding future achievement. Evidence of demonstrated leadership in extracurricular activities that benefit the College and community is essential. Finalists will be contacted for a personal interview with the Awards committee.

Robert & Joyce Hetzler Family – Highest Recognition Award

Outstanding Graduate in Service & Leadership. The Hetzler Award was established in honor of Robert and Joyce Hetzler Family. Mr. Hetzler is former Chair of the Foundation Board, and the retired President and Chief Executive Officer of Monitor Sugar Company. Mrs. Hetzler taught home economics at schools in Michigan and Virginia for five years before raising the couple's children. The award recognizes the graduate who has demonstrated outstanding achievement based on service and leadership to the college and the community. A high level of academic achievement at Delta must also be evident as documented by letters of recommendation or other documentation. Personal service and leadership examples include, but are not limited to volunteer work at schools, churches, charitable organizations, and fund raisers. Finalists will be contacted for a personal interview with the Awards Committee.

(Applied) Industrial/Technical Award - Sponsor: Gougeon Employee Foundation

In 1969, Meade Gougeon and his younger brother Jan, who's hometown is Bay City, founded Gougeon Brothers' Boatworks to build iceboats. Gougeon Brothers, Inc. has always been a privately-held company but in 1983, set the ground work to become an employee-owned company. In effect, any Gougeon employee you speak with is a part-owner of the company with a vested interest in keeping customer satisfaction. Gougeon Brothers, Inc. has a mission statement affirming their purpose to provide safe, high-quality, cost-effective products and comprehensive technical information supported by continual research and development. The following programs are considered for this award: HVAC, Fire Science, Refrigeration, Machine Tools, Welding, Skilled Trades, Construction, Manufacturing.

Art Award – Sponsor: Peter & Suzanne Frantz

The Peter B. and Suzanne Smith Frantz Art Award Endowment was made possible with a gift from Mr. Frantz in memory of his wife. Mr. Frantz spent his career as an architect, and authored a book in 2000, Jane's Letters from Ireland: 1884-1886, featuring letters from his maternal grandmother, Jane Stanley, one of America's premier watercolor artists. Mrs. Frantz, who passed away in July 2005, was an accomplished artist who worked in the photography department at Delta College and exhibited her work at Adrian College, Central Michigan University and Alma College. The following programs are considered for this award: Art Majors, Electronic Media and graduates who completed multiple art classes.

Business Management Award – Sponsor: Morley Foundation

The Morley Foundation was established in 1948 by Mr. and Mrs. Ralph C. Morley, Sr. Morley Companies. The Morley Foundation Award recognizes annually the outstanding Delta graduate in business programs and business management. The award has been established to recognize academic achievement and good citizenship, thereby demonstrating the business community's concern and appreciation of superior performance. Additionally, it is expected such recognition will encourage other students to strive for success in the area of business. The following programs are considered for this award: Construction Management, Cosmetology

Management, Marketing Management, Retail Management, Small Business Management, Business Management, and Business Administration.

Education Award – Sponsor: Edward & Kathryn Dunn Langenburg

Edward and Kathryn (Dunn) Langenburg of Bay City are retired educators, the parents of two children - Scott and Ann-Marie - and the grandparents of six. Mr. Langenburg worked for 31 years as a counselor and administrator for the Bay City Public Schools, and Mrs. Langenburg worked for 32 years as a mathematics teacher for Bangor Township and Bay City Public Schools. Mr. Langenburg received a Bachelor of Arts degree in Education and a Master's degree in Counseling from Central Michigan University. Mrs. Langenburg attended Bay City Junior College and received an associate's degree from Delta College (graduating during the College's first commencement exercises), a Bachelor of Science degree in Mathematics from Central Michigan University, and a Master's degree in Teaching from Saginaw Valley State University. She is a member of the Delta College Foundation Board of Directors, and believes in giving back to Delta College for scholarship support she received when she was a college student. The following programs are considered for this award: Child Development, Teacher Assistant, Industrial Technology Education, Art Education, Business Education, Elementary Education, Industrial Arts Education, Music Education, Physical Education, Pre-School Education, Secondary Education, and Special Education.

Engineering & Technology Award – Sponsor: Fred E. Dulmage

The Fred E. Dulmage Memorial Award annually recognizes the outstanding Delta College graduate in mechanical engineering and technology. It was established to recognize academic achievement and good citizenship thereby demonstrating Delta College's appreciation of superior performance. Additionally, it is expected such recognition will encourage other students to strive for success. The following programs are considered for this Award: Mechanical Engineering Technology, Pre-Engineering, and graduates with demonstrated excellence in CAD, CNC, & DRF courses.

English Award – Sponsor: Margaret Timm

This award was established by Mr. Wesley Timm in memory of his wife Margaret Timm. A Bay City native, Mrs. Timm attended Bay City Public Schools and Bay City Junior College concentrating on foreign languages and graduating in 1931. She continued her studies in foreign languages at the University of Michigan. In 1933, she graduated with a major in Latin, minors in French and German, a K-12 Teaching Certificate and a Phi Beta Kappa key. At Central Michigan and Purdue Universities, she earned two Master degrees in English. When Garber High School opened, she was English Department head and introduced Advanced Placement English. For 30 years, Mrs. Timm emphasized excellence in all her classes as she prepared the students for college and life. At age 80, Margaret retired in 1993. She passed away in 2001. Mr. Timm, a member of the "Committee of 300" (considered to be founders of Delta College), passed away in 2007. The following programs are considered for this award: Journalism and Emerging Media; and/or graduates who have excelled in multiple English and/or Literature courses. The English Division faculty will select the award recipient.

Finance (Banking) & Information Technology Award – Sponsor: Chemical Bank

Chemical Financial Corporation (CFC) is the third largest bank holding company in Michigan, operating 129 Chemical Bank offices located throughout Michigan's Lower Peninsula. Chemical Bank understands the people, resources and potential of the communities in which they serve and help to make their communities better now and in the future for their neighbors and families. At Chemical Bank, this "neighbor-helping-neighbor" spirit is important. Programs considered, but not limited to: Accounting, Finance, Computer Applications, Information Security and Technology, Network Technology, IT Support, Programming, Web Information Technology or students who have demonstrated excellence in accounting coursework.

Foreign Language Study Award – Sponsor: Lola Bishop Whitney Recognition

During her long life from July 13, 1883 until March 26, 1976, Lola Bishop Whitney lived a life which was filled with a spirit of adventure and a commitment which inspired students during her 41 years of teaching. As a dedicated teacher, she inspired students to study, to learn, to explore, and to strive for the best within them. It is hoped that her zest for adventure and learning will be communicated to those who receive awards and recognition from her endowment fund, and that her life will forever be an inspiration for students of all ages. The Lola Bishop Whitney Foreign Language Award was established to encourage and support foreign language study, which was a life-long pursuit for Lola Bishop Whitney, the former language teacher in Bay City. The following programs are considered for this award: Foreign Language majors, International Studies, or students who have demonstrated sustained excellence in foreign language courses over several semesters of study.

Health Sciences Award – Sponsor: James McIntyre

The Outstanding Graduate in Health Science Programs Award (except Nursing) was created by James R. McIntyre, a lifetime Saginaw resident and Delta College supporter. Mr. McIntyre was employed by and later owned the McIntyre Funeral Chapel for 45 years, retiring in 2005. He was a Past President of the Saginaw (Downtown) Lions Club, the West Saginaw Civic Association and Second Vice President of PRIDE in Saginaw. He was named honorary grand marshal of the 2005 PRIDE Christmas Parade. Health Science Programs (except Nursing) considered for this award: Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Health Fitness, Physical Therapist Assistant, Radiography, Respiratory Care, and Surgical Technology.

Law Enforcement Award – Sponsor: F.O.P. Bay City Lodge 103

The Fraternal Order of Police is the world's largest organization of sworn law enforcement officers, with more than 324,000 members in more than 2,100 lodges. They are the voice of those who dedicate their lives to protecting and serving our communities, and are committed to improving the working conditions of law enforcement officers and the safety of those we serve through education, legislation, information, community involvement, and employee representation. No one knows the dangers and the difficulties faced by today's police officers better than another officer, and no one knows police officers better than the F.O.P. The following programs are considered for this award: Corrections, Basic Police Training Certification Track, and Law Enforcement.

Life Sciences Award – Sponsor: Julius and Irene Sutto

The Julius & Irene Sutto Student Award for Life Sciences Endowment has been established by gifts from Mr. Sutto in memory of his wife to honor a top student enrolled in the Life Sciences. Mr. Sutto was a member of the Delta College "Committee of 300", (considered to be the College's founders,) and was employed with the County of Saginaw as its first controller in 1964 and served on the Saginaw County Board of Commissioners. Mrs. Sutto was the first female elected to the Spaulding Township School Board and the Bridgeport-Spaulding School Board, and served in a number of leadership roles. Delta College's Life Sciences Award is for students pursuing transfer programs including: Biology Majors, Pre-Biotechnology, Pre-Dentistry, Pre-Dietetics, Pre-Medical Technology, Pre-Medicine, Pre-Mortuary Science, Pre-Occupational Therapy, Pre-Optometry, Pre-Osteopathy, Pre-Pharmacy, Pre-Physical Therapy, Pre-Veterinary Medicine, and related medical fields.

Mathematics Award – Sponsor: Jim and Janis Van Tiflin

This award has been established with a gift from Jim and Janis Van Tiflin. Mr. Van Tiflin is a member of the Delta College Foundation Board of Directors and served as President of Citizens Bank, now First Merit Bank. Mrs. Van Tiflin is a retired medical librarian. Both were born and raised in Saginaw, graduated from Saints Peter and Paul High School and attended Delta College. The Van Tiflins are grateful for the training they received at Delta. The recipient should have a strong academic record in the mathematics curriculum, with a minimum of 12 credits earned in higher level mathematics (Algebra, Calculus, Geometry, and Statistics).

Nursing Award – Sponsor: Frances Goll Mills

This award was established by a gift by the Frances Goll Mills Memorial Fund and recognizes an outstanding graduate in nursing. Mrs. Goll Mills, who passed away in 1982, moved to Saginaw in 1932 from Ohio. She became a well-respected artist in the Mid-Michigan area, having her works displayed at the Detroit Institute of Art, the Saginaw Art Museum and the Saginaw Women's Club. The following programs are considered for this award: Licensed Paramedic to RN, LPN to RN, Nursing, and Pre-Nursing (BSN).

Physical Sciences Award – Sponsor: Dow Chemical Michigan Operations

This award is sponsored by the Dow Chemical Michigan Operations. Dow Chemical Company is a diversified chemical company that harnesses the power of innovation, science and technology to constantly improve what is essential to human progress. The Company offers a broad range of products and services to customers in more than 175 countries, helping them to provide everything from fresh water, food and pharmaceuticals to paints, packaging and personal care products. Built on a commitment to its principles of sustainability, Dow has annual sales of \$49 billion and employs 43,000 people worldwide. The following programs are considered for this award: Chemical Process Technology, Chemical Technology, Environmental Technology Agriculture, Pre-Biotechnology, Chemistry Majors, Conservation, Forestry, Geography, Geology, Natural Resources, and Water Environmental Technology.

Social Science Award - Sponsor: Wesley C. Timm

This award was established in memory of Mr. Timm, was a member of the "Committee of 300" (considered to be the founders of Delta College.) While he believed strongly in higher education, he was especially proud that nearly two-thirds of Delta's graduates stay in or around the area as local residents and tax paying citizens. Mr. Timm was very concerned about the future of the United States, the State of Michigan, and the Great Lakes Bay Region. He believed that Delta College was very capable of training the next generation of leaders for this Region. This award will be presented annually to a graduate who shares the idea that, in order for the Great Lakes Bay Region (Bay, Midland and Saginaw Counties) to prosper, persons with vision and leadership need to be developed and motivated, and convinced to settle in this area. Students applying for this award must have taken two or more classes within History, Political Science, Sociology, Psychology or Economics, and demonstrate the civic leadership potential in government, education, or business.

Section V

Academic Courses

Placement Assessments For New Students: What Does My READING Score Mean?

Level	Accuplacer Reading Score	COMPASS/ASSET Reading Score	What Course do I Take?
Developmental Education Courses	Bridge Program Reading	COMPASS 1-35 ASSET 23-25	See Bridge Program Coordinator in D-102
	Reading Level 1	COMPASS 36-60 ASSET 26-34	Take RDG 093W
	Reading Level 2	COMPASS 61-80 ASSET 35-40	Take RDG 097W or OAT 150
College-Level Courses	Reading Level 3	Level attained by course grade only.	Take ENG 111A NOTE: To take ENG 111A, you must also be in WRITING Level 3 or 4.
	Reading Level 4	Accuplacer 76-120 ACT English 20 or higher SAT Critical Reading 470 or higher	Take ENG 111 or OAT 151 NOTE: To take ENG 111, you must also be in WRITING Level 4.

PLEASE SEE A COUNSELOR OR ADVISOR IN D-102 IF YOU HAVE QUESTIONS

* If you have a SAT score, please consult with a Counselor or an Advisor (D102) for course placement

Placement Assessments For New Students: What Does My WRITING Score Mean?

Level	Accuplacer Writing Score	COMPASS/ASSET Writing Score	What Course do I Take?
Developmental Education Courses	Bridge Program Writing	COMPASS 1-15 ASSET 23-32	See Bridge Program Coordinator in D-102
	Writing Level 1	COMPASS 16-37 ASSET 33-34	Take WRT 090
	Writing Level 2	COMPASS 38-69 ASSET 35-40	Take WRT 098 or OAT 150
College-Level Courses	Writing Level 3	Level attained by course grade only.	Take ENG 111A NOTE: To take ENG 111A, you must also be in READING Level 2, 3, or 4.
	Writing Level 4	Accuplacer 81-120 ACT English 20 or higher SAT Critical Reading 470 or higher	Take ENG 111 or OAT 151 NOTE: To take ENG 111, you must also be in READING Level 4.

PLEASE SEE A COUNSELOR OR ADVISOR IN D-102 IF YOU HAVE QUESTIONS

* If you have a SAT score, please consult with a Counselor or an Advisor (D102) for course placement

For Returning Students Who Took Reading Courses
RDG 093W or RDG 097W:
Now What Course Do I Take?

Level	My Course Grade	What Course Do I Take?
Reading Level 1	I got a C- or lower in RDG 093W	Take RDG 093W
Reading Level 2	I got a C, C+, B-, B, or B+ in RDG 093W I got a C- or lower in RDG 097W	Take RDG 097W or OAT 150
Reading Level 3	I got an A- in RDG 093W I got a C, C+, B-, B, B+ in RDG 097W	Take ENG 111A NOTE: To take ENG 111A, you must also be in WRITING Level 3 or 4.
Reading Level 4	I got an A in RDG 093W I got an A or A- in RDG 097W I got a C or higher in OAT 150	Take ENG 111 or OAT 151 NOTE: To take ENG 111, you must also be in WRITING Level 4.

For Returning Students Who Took Writing Courses
WRT 090 or WRT 098:
Now What Course Do I Take?

Level	My Course Grade	What Course Do I Take?
Writing Level 1	I got a C- or lower in WRT 090	Take WRT 090
Writing Level 2	I got a C, C+, B-, B, or B+ in WRT 090 I got a C- or lower in WRT 098	Take WRT 098 or OAT 150
Writing Level 3	I got an A- in WRT 090 I got a C, C+, B-, B, B+ in WRT 098	Take ENG 111A Note: To take ENG 111A, you must also be in READING Level 2, 3, or 4.
Writing Level 4	I got an A in WRT 090 I got an A or A- in WRT 098 I got a C or higher in OAT 150	Take ENG 111 or OAT 151 Note: To take ENG 111, you must also be in READING Level 4.

PLEASE SEE A COUNSELOR OR ADVISOR IN D-102 IF YOU HAVE QUESTIONS PLEASE SEE A COUNSELOR OR ADVISOR IN D-102 IF YOU HAVE QUESTIONS

MATHEMATICS PREREQUISITE TABLE

Course	Level	Prerequisite	High School GPA*	ACCUPLACER (AR or EA or CLM)			COMPASS	ACT	High School Transcript*
				(HS GPA & ACCUPLACER Effective Winter 2017)					
MTH 090	Bridge Program			AR 20-23			N 1-17		
MTH 092	1			AR 24-37			N 18-43		
MTH 096	2	MTH 092	3.0	AR 38-84	EA 25-39		N 44-100		
MTH 097	3	MTH 096	3.0	AR 85-120	EA 40-76		EA 13-40		
MTH 098	3	MTH 096	3.0	AR 85-120	EA 40-76		EA 13-40		
MTH 117	3	MTH 096	3.0	AR 85-120	EA 40-76		EA 13-40		
MTH 103	4	MTH 097	3.0		EA 77-107		IA 41-70		
MTH 115	4	MTH 097	3.0		EA 77-107		IA 41-70		
MTH 118W	4	MTH 097	3.0		EA 77-107		IA 41-70		
MTH 119AW	4	MTH 097 (with C or C+)	3.0		EA 77-107		IA 41-70	19	
MTH 119W	5	MTH 097 (with B- or better)	3.0		EA 77-107		IA 41-70	19	
MTH 120	6	MTH 119W	3.0		EA 108-120	CLM 20-62	CA 46-100	21	Algebra I & II with grades of “C” or above
MTH 122W	6	MTH 119W	3.0		EA 108-120	CLM 20-62	CA 46-100	21	
MTH 208W/209W	6	MTH 098, 118W, 119W	3.0		EA 108-120	CLM 20-62	CA 46-100	21	
MTH 121	7	MTH 119W				CLM 63-79	CA 46-100	23	
MTH 160	8	MTH 120				CLM 80-89	CA 46-100	23	3.5 years of college preparatory math
MTH 151	9	MTH 121				CLM 90-99	CT 0-45	25	3 years of college preparatory math with Trigonometry
MTH 161	10	MTH 151				CLM 100-120	CT 46-100	27	4 years of college preparatory math with Trigonometry
MTH 162	11	MTH 161						27	
MTH 260	12	MTH 161						27	
MTH 261	12	MTH 162						27	
MTH 263	13	MTH 261						27	
MTH 264	13	MTH 261						27	

*High school GPA and high school transcript must be within the last three years.

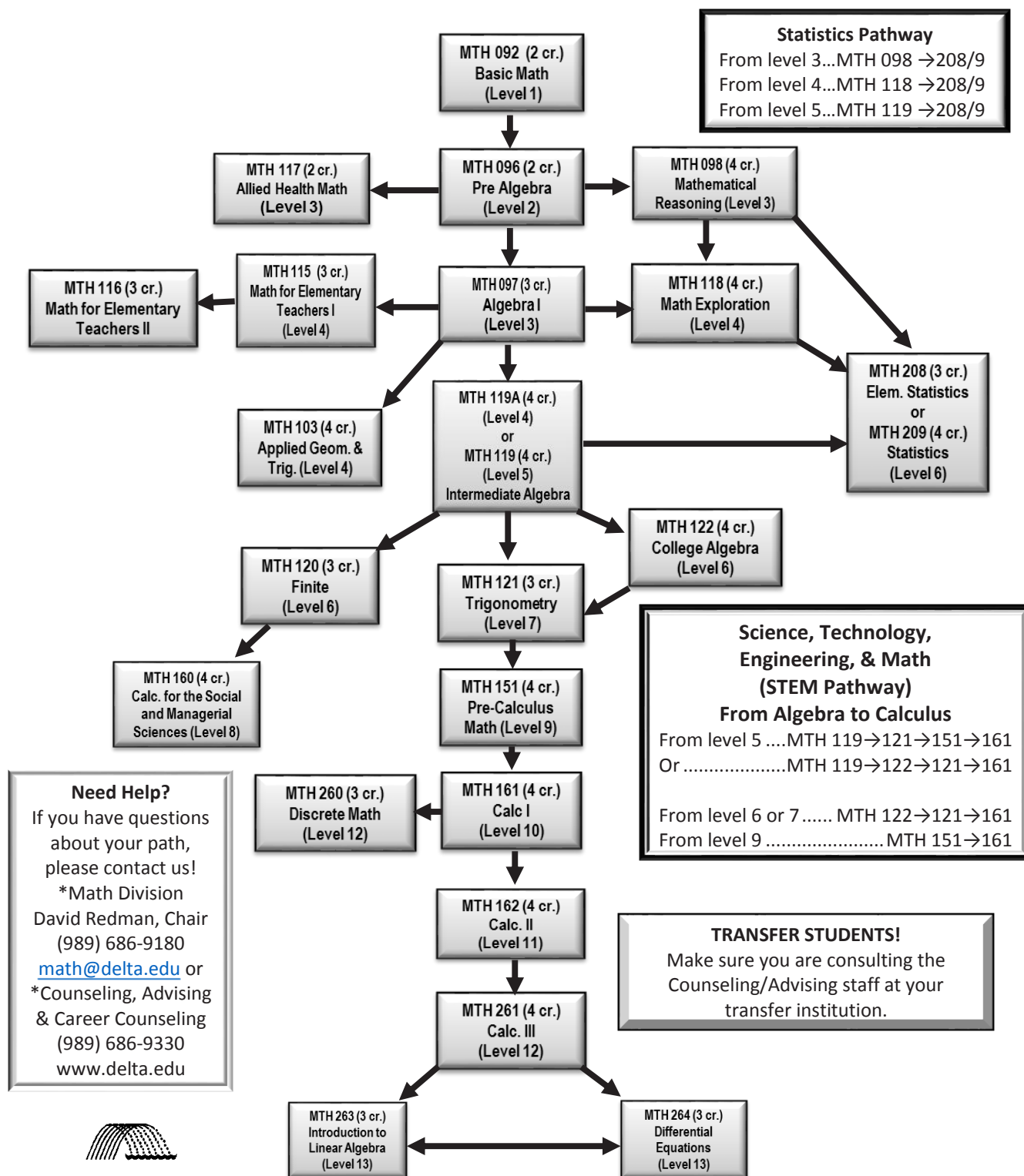
KEY-COMPASS & ACCUPLACER

COMPASS: EA-Elementary Algebra; IA-Intermediate Algebra; N-Numerical; CT-Trigonometry

ACCUPLACER: AR-Arithmetic; EA-Elementary Algebra; CLM-College Level Math

(6/16)

Math Pathways at Delta College



eLearning

We're going the distance... so you don't have to.

Students today require learning flexibility and Delta College is committed to providing you with learning options that fit into your busy lifestyle. The Internet, Virtual Classrooms, and other technologies are making college degrees attainable through eLearning.

The advantages of eLearning courses are convenience and flexibility – not simplicity. Students must be highly motivated and disciplined to be successful in an eLearning course. Successful students communicate with their instructors regularly. Students are highly encouraged to access their virtual course sites and contact their instructors on the start date of the semester.

If you would like to learn more, contact the eLearning Office at 989-686-9401 or by e-mail at elearning@delta.edu

Delta College eLearning Course Options:

- **Online Course** - An online course delivers 100% of the material/content online. This course may require that assessments be taken in an approved proctored location or online.
- **Blended Course** – A blended course requires both online and on campus meeting times. The distribution of course material, assessments, and interactions between professor-to-student, students-to-professor, and/or student-to-student(s) are delivered in a combination of both online and classroom meeting times determined by the professor. Dates for required meetings will be provided. This course may require that assessments be taken in an approved proctored location, online and/or in the classroom.
- **MCO** – Michigan Colleges Online (MCO) is a collaboration between Michigan community colleges that allow Delta College students to take eLearning courses from other community colleges in Michigan. If a specific course is not available at Delta College, you may find comparable courses through MCO at <https://www.miccollegesonline.org>. Check with your counselor to make sure the course credit will transfer back to Delta College.



On the Web: www.delta.edu/elearning

International Travel/Study Courses

Delta College offers international travel/study courses on an annual basis. These courses are usually offered for credit which include a combination of lecture and field experience in group international travel; however, since the length of travel time may vary from one to four weeks, the Curriculum Council has approved variable credit, depending on the length of the travel field experience. Consequently, travel/study courses may vary in credits from a minimum of one to a maximum of four. These courses are numbered 268 and may be taken in various disciplines; i.e., BIO 268, ECN 268, SOC 268. The specific country/region of focus will be listed after the course number and title (SOC 268 International Studies: Australia). You may register for only one travel/study course per trip. You should consult a counselor regarding the transferability of total credits earned through international study and travel.

Learning Community Courses

Learning communities are like pre-planned course packages, offering classes students need for their degree or transfer programs in a format that is remarkably student-friendly. Each course in a learning community will be from a different area of study or discipline, but the courses will all be united by a common theme. The instructors of the courses work together to plan the courses, emphasizing the theme, coordinating assignments, and working closely with students to support learning. Collaborative work and community-building are key features of all learning communities. Students engage in a variety of learning formats, including but not limited to group projects, classroom discussions, guest speakers, field trips, and community projects. Students benefit by sharpening their critical and creative thinking; making connections with fellow learners, faculty, the college, and the community; and improving communication skills. Students in Delta College's learning communities program self-report that they feel they learn better because they participated in a community, that caring about the people in their community lead to caring more about the learning, and that they feel more support.

Independent Study Course Information

Independent Study refers to enrollment in an appropriately-designed, variable-credit course for a specific plan of study, authorized and supervised by a consenting faculty member. Independent Study is not a substitute for regular courses, but an enrichment opportunity. Normally, it is a project designated to allow you to investigate an area of interest not within the scope of a regular course, to probe more in depth than is possible in a regular course, or to obtain an educational experience outside that normally offered by a regular course.

Guidelines for an Independent Study course are:

1. **Proposals:** The Independent Study project is normally student-initiated. Early interaction with faculty is essential in the development of a mutually-acceptable project description. At a minimum, such a description should contain an outline of the study topic, specification of the work to be done and the materials to be read, the credit to be given, the type and frequency of faculty-student contacts, and a statement of the evaluative criteria to be used by the faculty member.
2. **Approval Process:** The faculty member must accept and approve the project and then submit the agreed-upon proposal on the appropriate form to the Division Chair for approval. The granting of approval by the Division Chair may involve considerations, such as faculty workload, which go beyond the merits of the project. If the Chair approves, the form is then submitted to the Academic Dean and Registrar. The student may register for the project after the authorization form is received by the Registrar's Office.
3. **Responsibility:** Independent Study is basically a tutorial process. Students are on their own when pursuing an Independent Study, because it involves no class meetings or formal lectures. The faculty member is the responsible custodian of the project, obliged to provide guidance, assistance, criticism, suggestion, and evaluation.
4. **Variable Credit:** With faculty approval, credit may vary from one to six credits.

Course Abbreviations



Courses in this section, as well as those on MyDelta search for classes, are listed in alphabetical order by department areas. The department area abbreviation appears on students' official transcripts.

Abbreviation	Department Area	Page
ABS	Applied Behavioral Studies	353
ACC	Accounting	353
ACE	Academic Career Experience (also see CED)	354
AGM	Auto Service Education Program (ASEP)	354
ARC	Architectural Technology	355
ART	Art	356
ASEP	GM	357
ASL	American Sign Language	359
AST	Astronomy	359
AUT	Automotive Service	359
AUTO	Automotive Service	360
BIO	Biology	362
CAD	Computer Aided Design	364
CD	Child Development	365
CEP	Civic Engagement	365
CHM	Chemistry	365
CJ	Criminal Justice	367
CNA	Certified Nursing Assistant	368
CNC	Computer Numerical Control	368
COM	Communication	369
CPI	Chemical Process Industries	370
CST	Computer Science & Information Technology	370
CT	Chemical Technology	374
DA	Dental Assisting	374
DH	Dental Hygiene	375
DMS	Diagnostic Medical Sonography	377
DRF	Drafting	378
ECN	Economics	378
ED	Education	379
EDU	Education for Professional Development	379
EET	Electronic Engineering Technology	381
EGR	Engineering	381
EM	Electronic Media	382
EMB	Electronic Media Broadcasting	382
EMS	Emergency Medical Service	383
ENG	English	384
ENT	Entrepreneurship	388
ENV	Environmental Science	388
ET	Electrical Technology	389
FR	French	390
FST	Fire Science Technology	391
GE	German	393
GEO	Geography	393
GIS	Geographic Information Systems	394
GLG	Geology	394
HIS	History	395

Abbreviation	Department Area	Page
HSC	Health Science	396
HVAC	Heating, Ventilation & Air Conditioning	397
IHU	Interdisciplinary Humanities	398
	Interdisciplinary Science (see SCI)	427
ITE	Industrial Technology Education	399
LIB	Library Skills	399
LSP	Legal Support Professional	400
LW	Lifelong Wellness	401
LWA	Lifelong Wellness Activity	401
LWT	Lifelong Wellness Theory	403
MGT	Management	404
MIT	Manufacturing & Industrial Technology	405
MS	Machine Tool Operations	406
MT	Mechanical Technology	406
MTH	Mathematics	407
MUS	Music	408
NPT	Nursing (RN) Part-time	411
NT	Nursing Transition (PN or Paramedic to RN)	412
NUR	Nursing (RN) Full-time	413
OAT	Office Administration & Technology	415
PHL	Philosophy	416
PHM	Pharmacology	417
PHY	Physics	417
PNE	Practical Nursing Education	418
POL	Political Science	418
PSC	Physical Science	419
PSY	Psychology	420
PTA	Physical Therapist Assistant	420
QA	Quality Assurance	423
RAD	Radiography	423
RC	Residential Construction	425
RDG	Reading	425
RT	Respiratory Care	425
SCI	Interdisciplinary Science	427
SFA	Surgical First Assistant	427
	Sign Language (American) - (Sec ASL)	359
SK--	Skilled Trades	428
SOC	Sociology	434
	Sonography, Diagnostic Medical (see DMS)	377
SPA	Spanish	436
SSI	Social Science Interdisciplinary	436
ST	Surgical Technology	437
TTI	Technical Trades Interdisciplinary	438
WELD	Welding Engineering Technology	438
WET	Water Environment Technology	439
WRT	Writing	440
WTT	Wind Turbine Technology	440



Course Information

Courses listed in this section are those which Delta College is approved to offer; however, inclusion of a course does not obligate the College to offer the course in any particular semester or year. Most of the courses listed will be offered at least once during a complete academic year. Course offerings are listed on MyDelta search for classes in late January for the Spring/Summer and early February for Fall and Winter Semester. **Courses in this section, as well as on MyDelta, are listed in alphabetical order by department name according to three or four character course numbers.**

An Example

Department Area Name

Catalog Number	Course Title	Course Credits
ACC 211	Principles of Financial Accounting	4 Sem Hrs
Prerequisite: MATH LEVEL 4 or "B" or higher in MGT 110 and READING LEVEL 2 or "B" or higher in ACC 111.		
Introduces basic concepts of accounting principles. Includes the accounting cycle for service and merchandising businesses, internal control, accounting for current assets, long-term assets, current liabilities, and owner's equity. Recommended for transfer (as an alternate to ACC 111 (60-15))		
Course Description		Hours of Instruction (lecture-laboratory)
Course Prerequisite		

Course Credits

1. Each course is assigned a number of credits which generally indicates the number of hours per week the course meets. Courses with labs and occupational courses, however, generally meet more hours than the number of credits they carry.
2. Tuition rates are assessed on a per-credit-hour basis, and vary depending on your residency classification. Total tuition for each course must be paid at registration time.

Course Descriptions

1. Below each course number and title, a brief course description is provided. You should read this description carefully to be sure you are qualified to take the course and that the course content meets your needs and interests. If you need additional information, you may contact the Chair of the Division which offers the course or the course instructor.
2. Instructors often give supplemental course information (i.e., course outline, syllabus, tasks and competencies, etc.), during the first week of classes, so students will know specific course procedures, grading criteria, and course objectives. Circumstances such as illness, inclement weather, class composition and size, or the introduction of timely material may necessitate some adjustments. The College recognizes the right of the faculty member to exercise professional judgment in making such adjustments.

Hours of Instruction

The numbers given within parentheses at the end of each course description indicate the total number of hours each course will be scheduled within a semester. The first number specifies total lecture hours and the second number specifies total laboratory or clinical hours for the course.

Course Numbering System

All Delta College academic courses have a three-to-five character course number. MyDelta Search for Classes, which is available online prior to each semester, lists courses in alphabetical order by subject area name according to these course numbers.

1. Courses below 100 are considered developmental and do not meet graduation requirements.
2. Courses within the 100-199 series generally represent freshman-level courses; however, these courses may also be taken by sophomores.
3. Courses within the 200-389 series are intended primarily for sophomores; however, these courses may be taken by freshmen having the necessary prerequisites.
4. Courses within the 290-299 series designate special courses as follows: 291 Independent Study (arranged on an individual basis between student and faculty member; see Independent Study Course Information in this section); 292-299 Special Topics/Seminars (such courses will be offered as regular courses upon demand or to meet the special needs of some programs, except ACE courses).

Course Designations

Courses designated by an "H" (for Honors), "C" (for courses that require co-registration in another course), and "W" (for Writing), are considered course variations of a regular course and incorporate the same course content. Course variations are considered equal in meeting graduation requirements and prerequisites. Lab courses designated by an "L" are *not* considered a course variation.

Honors

Honors courses incorporate all regular course content with greater emphasis on enrichment and becoming actively involved in the learning process. You learn and apply diverse concepts while stressing creative and critical thinking. You will be expected to be more self-directed with a goal of understanding the theoretical base of the subject matter. Honors courses and Honors Options are designated on your transcript with a "+" designation. Honors students who meet certain eligibility criteria will be assigned priority registration. See www.delta.edu/honors for eligibility information.

Course Prerequisites

Prerequisites listed at the beginning of course descriptions are courses which must be taken or skill levels which must be met before enrolling in the course. Skill levels are demonstrated by either assessment scores or course grades according to the following tables. Some prerequisites are not computer-enforced, but may be enforced at the discretion of the division.

A bachelor's degree from a regionally accredited institution meets prerequisites which require College Composition II. Official transcripts must be provided to the Delta College Registrar's Office.

Course Descriptions



Applied Behavior Studies

ABS 101W College Success 2 Sem Hrs

Explores academic skills and strategies needed for college-level learning and success. Examines effective personal attributes/behaviors, available college resources, and general expectations of college professors and courses. Practices engagement in the greater campus culture and recognition of the value of learning beyond the classroom. Assists in the identification of individual strengths and the creation of a personal plan for reaching college goals using information from the course. Encourages writing, as a reflective practice, to enhance learning. (30-0)

ABS 200W Career Decision Making 1 Sem Hr

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Develops student ability to make career choices by focusing on the steps in the career decision making process (Self Awareness, Career Awareness, Decision Making, and Creating a Plan). Investigates personal values, skills, interests and abilities and explores a variety of careers using campus resources. Assists in matching personal characteristics with careers and creating a plan of action to accomplish short- and long-range career goals while working in a cooperative, respectful group atmosphere. Encourages writing, as a reflective practice, to enhance learning. Credit may be earned in ABS 103 or ABS 200 but not both. (15-0)

ABS 201W Employability Skills for Success 1 Sem Hr

Prerequisite: READING LEVEL 2 and WRITING LEVEL 2. Develops skills in identifying students' job-related abilities and attitudes; locating leads in the job market; writing resumes and cover letters; completing applications, and interviewing. Encourages writing, as a reflective practice, to enhance learning. Credit may be earned in ABS 201 or ABS 102, but not both. (15-0)

ABS 290-299 Special Projects in Applied Behavioral Science

Accounting

ACC 110 Introduction to QuickBooks 1 Sem Hr

Prerequisite: MATH LEVEL 2 and CST 103 or equivalent computer background. Introduces the use of QuickBooks to assist in the basic accounting function in a small business or office environment. This course is appropriate for students desiring these skills and/or in office systems, small business management, trades or medical programs. (15-0)

ACC 111 Introductory Accounting 4 Sem Hrs

Practices basic accounting procedures including journalizing, posting, preparation of financial statements, special journals, subsidiary ledgers, petty cash fund, bank reconciliation, and payroll accounting. Not recommended if credit has already been earned in ACC 211. (60-0)

ACC 121 Accounting for Managers 3 Sem Hrs

Develops ability to use accounting information in planning, evaluating and decision-making as a business manager. This course is appropriate for students in business, trades, and dual-degree programs. May be substituted for ACC 111 in most programs. (45-0)

ACC 211 Principles of Financial Accounting 4 Sem Hrs

Prerequisite: READING LEVEL 3; and MATH LEVEL 4 or "B-" or higher in MGT 110. Introduces basic concepts of accounting principles. Includes the accounting cycle for service and merchandising businesses, internal control, accounting for current assets, long-term assets, current liabilities, and owner's equity. Recommended for transfer students. (60-15)

ACC 212 Principles of Managerial Accounting 4 Sem Hrs

Prerequisite: ACC 211 with a C (2.0) minimum grade. Includes a study of corporate basic theory and methodology, statement of cash flows, accounting for manufacturing operations, and accounting data as used in performance measurement, decision making, planning, and control. (60-15)

ACC 214 Computerized Accounting 3 Sem Hrs

Prerequisite: CST 133W or CST 134 with a "C" or better; and ACC 211 with a "C" or better. Introduces microcomputer applications in general ledger, accounts receivable, accounts payable, payroll, and inventory/invoicing. Develops electronic spreadsheet applications using appropriate software. Outside laboratory assignments are required. (45-0)

ACC 215W Federal Tax Accounting 3 Sem Hrs

Prerequisite: ACC 212. Studies the Federal income tax law. Emphasizes core income tax principles and relates them to individual and business entity applications. Includes preparation of individual and business entity tax returns. (45-0)

ACC 216W Volunteer Income Tax Assistance (VITA) 2 Sem Hrs

Prerequisite: MATH LEVEL 4 and READING LEVEL 3. Provides instruction in preparation of federal, state, and local individual income tax returns and uses practical experience in the preparation of these returns. Provides service to qualifying citizens within the tri-county district by preparing tax forms and filing electronically. Requires 30 hours of service-learning. (30-30)

ACC 227W Intermediate Accounting I 4 Sem Hrs

Prerequisite: ACC 212 with a "C" (2.0) minimum grade or equivalent. Includes a study of accounting processes, theory, and principles. Includes financial statement presentation, revenue recognition, evaluation of current assets, property plant and equipment, intangible assets, and time value of money. Designed for transfer. (60-0)

ACC 228W Intermediate Accounting II 4 Sem Hrs

Prerequisite: ACC 227W with a "C" (2.0) minimum grade or equivalent. Presents accounting for current liabilities, stockholders' equity, EPS, income taxes, pensions, leases, long-term liabilities, and the statement of cash flows. Designed for transfer. (60-0)

ACC 229 Practical Intermediate Accounting 2 Sem Hrs

Prerequisite: ACC 212 with a "C" (2.0) minimum grade. Presents accounting for assets, liabilities, and equity through practical application. Focuses on supporting schedules and reconciliation of the items in the financial statements. Opportunities are provided to practice quality internal control procedures. (30-0)

ACC 230 Operational Business Taxes 2 Sem Hrs

Prerequisite: ACC 212 with a "C" (2.0) minimum grade. Provides practical training regarding various federal, state, and local operational business taxes. Focuses on filing requirements and completion of appropriate forms through use of technology. (30-0)

ACC 233 Managerial Cost Accounting 3 Sem Hrs

Prerequisite: ACC 212 with a C (2.0) minimum grade. Relates principles and methods of handling materials, labor costs, and manufacturing expenses to the formulation of reports to management. Includes job order, process, standard, direct and budgetary costing procedures. (45-0)

ACC 235 Financial Management 3 Sem Hrs

Prerequisite: ACC 212 with a C (2.0) minimum. An introduction to the basic concepts of financial management. Includes goals and functions of financial management, financial forecasting, leverage, working capital management, time value of money, stock and bond valuation, cost of capital, capital budgeting, and concept of risk. (45-0)

ACC 285 Professional Accounting Careers 2 Sem Hrs
Prerequisite: ACC 227 with a minimum C grade or permission of instructor. Includes development of career materials to illustrate professionalism and accounting skills, and an integrated capstone accounting project. Recommended to be taken in the last semester of a student's accounting program. (30-0)

ACC 290-299 Special Projects in Accounting Sem Hr

Academic Career Experience

ACE 101W Career Professional Development I 2 Sem Hrs
Prerequisites: Must be employed in a major-related position, and have completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Service Learning. Introduces planning and goal setting. Provides opportunities for team building. Practices skills essential in the workplace. Introduces employment portfolio to manage academic and career information. Evaluates the student in a program-related, supervised worksite. (30-180)

ACE 102W Career Professional Development II 2 Sem Hrs
Prerequisites: ACE 101W with a minimum grade of "B". Must be employed in a major-related position, and have completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Service Learning. Continues from Career Professional Development I with additional responsibilities at the worksite. Explores work cultures and diversity. Develops team-building skills in a virtual setting. Continues development of employment portfolio and improves job interviewing skills. Continues practicing and developing essential skills necessary in the workplace. Evaluates the student in a program-related, supervised worksite. (30-180)

ACE 201W Career Work Experience - Business & Human Services 2 Sem Hrs
Prerequisites: ACE 102W with a minimum grade of "B"; must be employed in a major-related position. Continues from Career Professional Development II with additional responsibilities at the worksite. Provides further opportunity to produce and exchange professional communications and demonstrate continuous improvement in professional skill sets. Integrates, reinforces, and documents the student's academic studies with related career experience of at least 180 hours at an approved worksite. Evaluations are made by the employer/site supervisor and the college coordinator. Credit can be earned in ACE 201W, ACE 202W, ACE 203W or ACE 204W but not more than two courses (4 credits). (0-180)

ACE 202W Career Work Experience - Communications & Sciences 2 Sem Hrs
Prerequisites: ACE 102W with a minimum grade of "B"; must be employed in a major-related position. Continues from Career Professional Development II with additional responsibilities at the worksite. Provides further opportunity to produce and exchange professional communications and demonstrate continuous improvement in professional skill sets. Integrates, reinforces, and documents the student's academic studies with related career experience of at least 180 hours at an approved worksite. Evaluations are made by the employer/site supervisor and the college coordinator. Credit can be earned in ACE 201W, ACE 202W, ACE 203W or ACE 204W but not more than two courses (4 credits). (0-180)

ACE 203W Career Work Experience - Health 2 Sem Hrs
Prerequisites: ACE 102W with a minimum grade of "B"; must be employed in a major-related position. Continues from Career Professional Development II with additional responsibilities at the worksite. Provides further opportunity to produce and exchange professional communications and demonstrate continuous improvement in professional skill sets. Integrates, reinforces, and documents the student's academic studies with related career experience of at least 180 hours at an approved worksite. Evaluations are made by the employer/site supervisor and the college coordinator. Credit can be earned in ACE 201W, ACE 202W, ACE 203W or ACE 204W but not more than two courses (4 credits). (0-180)

ACE 204W Career Work Experience - Technical & Industrial 2 Sem Hrs
Prerequisites: ACE 102W with a minimum grade of "B"; must be employed in a major-related position. Continues from Career Professional Development II with additional responsibilities at the worksite. Provides further opportunity to produce and exchange professional communications and demonstrate continuous improvement in professional skill sets. Integrates, reinforces, and documents the student's academic studies with related career experience of at least 180 hours at an approved worksite. Evaluations are made by the employer/site supervisor and the college coordinator. Credit can be earned in ACE 201W, ACE 202W, ACE 203W or ACE 204W but not more than two courses (4 credits). (0-180)

ACE 280W Internship: Technology Management 1 Sem Hr
Prerequisites: (1) Majoring in construction management, industrial supervision, manufacturing industrial technology, or lean manufacturing, (2) employed in a major-related placement, and (3) completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Experiential Learning. Integrates, reinforces, and documents the student's academic studies with related career experience of at least 180 hours at an approved worksite. Evaluations are made by the employer/site supervisor and the college coordinator. (0-180)

ACE 285W Internship: Design Technology 1 Sem Hr
Prerequisites: (1) Majoring in architectural technology, CAD, residential construction, RHA, CNC technology, mechanical engineering technology, machine tool, manufacturing/welding engineering technology or similar program of study, (2) employed in a major-related placement, and (3) completed the program application process in the Office of Academic Career Experience (Cooperative Education) and Experiential Learning. Integrates, reinforces, and documents the student's academic studies with related career experience of at least 180 hours at an approved worksite. Evaluations are made by the employer/site supervisor and the college coordinator. (0 - 180)

ACE 290-299 Special Projects in Academic Career Experience N/A Sem Hrs

Automotive Service Education (ASEP)

AGM 110 Automotive Electronics Service 4 Sem Hrs
Introduces the operation, maintenance, and service of battery, charging, starting systems and GM electrical and electronic systems. Credit may be earned in AGM 110 or ACD 110 or SKGM 110 or AGM 131 but not in more than one. (40-40)

AGM 112W Engine Service 6 Sem Hrs
Introduces the operation, maintenance, and service of GM engines for mechanical performance. Stresses proper repair techniques and diagnosis of engine noises. Credit may be earned in AGM 112 or ACD 112 or SKGM 112 or AGM 141 but not in more than one. (45-75)

AGM 114 Brakes, ABS, TCS Service 5 Sem Hrs
Introduces the operation, maintenance, and service of GM base brakes, anti-lock and traction control. Presents general auto lab equipment operation and stresses safety. Credit may be earned in AGM 114 or ACD 114 or SKGM 114 or AGM 132 but not in more than one. (40-60)

AGM 134 Dealership Work Experience I 2 Sem Hrs
Provides work experience in the operation, maintenance, and service of GM base brakes, engine mechanical and electrical systems particularly battery, charging and starting systems. Stresses general auto lab equipment operation and safety. Credit may be earned in AGM 134 or ACD 134 but not in both. (6-600)

AGM 142 Electronic Engine and Emission Controls Service 9 Sem Hrs

Prerequisite: AGM 112. Introduces the operation, maintenance, and service of GM engines for drivability performance. Stresses proper repair techniques and diagnosis of engine drivability problems. Credit may be earned in AGM 142 or SKGM 142 or ACD 142 but not in more than one. (81-144)

AGM 143 Dealership Work Experience II 2 Sem Hrs

Prerequisite: AGM 134. Provides work experience in the operation, maintenance, and service of GM steering/suspension and drivability performance. Stresses basic spark, fuel, and emission control systems. (6-600)

AGM 210 Body Electronics Service 3 Sem Hrs

Prerequisite: AGM 110. Stresses the operation, diagnosis, and service of GM body electrical and electronics systems. Credit may be earned in AGM 210 or SKGM 210 or ACD 210 or AGM 241, but not in more than one. (30-30)

AGM 212W Suspension System Service 7 Sem Hrs

Introduces the operation, maintenance, and service of GM steering and suspension systems. Credit may be earned in AGM 212 or SKGM 212 or ACD 212 or AGM 133 but not in more than one. (56-84)

AGM 214 Heating/Air Conditioning 5 Sem Hrs

Prerequisite: AGM 143. Introduces the operation, maintenance, and service of GM Heating, Ventilation, and Air Conditioning systems and their controls. Credit may be earned in AGM 214 or SKGM 214 or ACD 214 or AGM 233, but not in more than one. (50-50)

AGM 216 Driveline Service 6 Sem Hrs

Prerequisite: AGM 143. Studies GM passenger car and light truck clutch, manual transmission, driveshaft, differential, transaxle, front driving axle, and transfer case terminology, operation, and diagnosis. Develops skills in diagnosis, adjustment, and repair of clutches, manual transmissions, driveshafts, differentials, transaxles, front driving axles, and transfer cases. Credit may be earned in AGM 216 or SKGM 216 or ACD 216 or AGM 231 but not in more than one. (60-60)

AGM 218W Automatic Electronic Transmission Service 8 Sem Hrs

Prerequisite: AGM 143. Introduces the operation, maintenance, and service of GM electronically controlled transmissions. Credit may be earned in AGM 218W or SKGM 218W or ACD 218W or AGM 232, but not in more than one. (80-100)

AGM 226 Advance Engine Electronics & Fuel System Service (GM) 7 Sem Hrs

Prerequisites: Minimum "C" (2.0) grade in AGM 112. Studies electronic inputs to the computerized engine controls; units of instruction necessary to develop a thorough understanding of induction systems and injection systems. Develops skills through controlled learning experiences with sensors, fuel delivery, and fuel injection systems. (60-90)

AGM 228W Electronic Engine Performance & Emission Control 7 Sem Hrs

Prerequisite: Minimum "C" (2.0) grade in AGM 112. Studies units of instruction necessary for a thorough understanding of ignition systems, emission control systems, and driveability diagnosis. Develops skills through controlled learning experiences with ignition systems, emission control systems, and driveability diagnosis. (60-90)

AGM 234 Dealership Work Experience III 2 Sem Hrs

Prerequisite: AGM 143. Provides work experience in the operation, maintenance, and service of GM manual and automatic heating, ventilation and air conditioning systems, automatic transmissions, and drivelines. Stresses proper handling of refrigerant and safety. (6-600)

AGM 238 GM Information Systems 2 Sem Hrs

Develops skills to use the current operating system on a computer. Introduces essential elements of computerized automotive technical support systems. Credit may be earned in CST 238 or AGM 238, but not both. (30-0)

AGM 290-299 Special Projects in Auto Service Education

Architecture Technology

ARC 101 Materials and Methods of Construction 3 Sem Hrs

Introduces basic construction materials; properties, recommended use, space requirements, methods of finishing, building code implications, and energy conservation applications. (45-0)

ARC 105 Architectural Drafting I 4 Sem Hrs

Teaches fundamentals of architectural drafting including linework emphasis, lettering design, symbol applications, multiview projections relative to architectural drawings, one point perspective, two point perspective, graphic design elements, and presentation of floor plans, sections and elevations. Studies space requirements and method or representing basic residential elements. Includes demonstrations and instruction in basic procedures of CAD. (45-45)

ARC 106 Architectural Drafting II 4 Sem Hrs

Prerequisite: ARC 105 or permission of instructor. Introduction to construction drawing organization. Development of coordinated drawings for one small building with emphasis on application of notes, dimensions, and development of graphic skills. Includes a study of CAD techniques and the use of the computer for drawing production, storage and retrieval, development of selected architectural details relating to foundation, floor, wall, and roof assemblies, with emphasis on energy conservation. (45-45)

ARC 111 Mechanical and Electrical Systems for Buildings 3 Sem Hrs

Fundamentals and operating principles of air conditioning, plumbing, and electrical systems; including typical layout, calculations, sizing, and methods of installation. Credit may be earned in ARC 111 or RC 206 but not in both. (45-0)

ARC 114 Introduction to CAD 3 Sem Hrs

Prerequisite: CST 103 recommended or basic knowledge of the Windows Operating System. Introduces 2D and 3D CAD drawing, including basic drawing and editing commands. Studies CAD systems interface, hardware, a current operating system, file management techniques, creating templates, creating and modifying geometry, dimensions and text styles, block and external reference insertion, attributes and creating tables, model space/paper space layouts, rendering and plotting techniques. Credit may be earned in only one of the following: ARC 114, CAD 114, or SKCA 114. (45-15)

ARC 118 AutoCAD Applications 3 Sem Hrs

Prerequisite: ARC 114. Uses and expands on commands learned in ARC 114, AutoCAD Basics. Accomplishes this through the development of various additional working drawings such as elevations, sections and details. (45-0)

ARC 204 Estimating Building Construction 3 Sem Hrs

Prerequisite: MATH LEVEL 4, ARC 101 and RC 101. Introduces methods and procedures commonly used in determining the costs of construction materials. (45-0)

ARC 205 Architectural Drafting III 3 Sem Hrs

Prerequisite: ARC 106. Develops construction documents for a non-residential building. Introduces concrete, masonry, and steel construction with their various detailing requirements, symbolisms, and characteristics utilized in installation of mechanical and electrical systems. Includes a study of computer-aided design examples. (15-90)

ARC 206 Architectural Drafting IV 3 Sem Hrs
Prerequisite: ARC 205. Develops sketches into preliminary and construction drawings. Uses CAD for design and drafting examples and production. Continues the design and drafting of concrete, masonry, and steel construction. Integrates structural, mechanical, electrical, and solar strategies into commercial buildings. (15-90)

ARC 211 Elements of Structural Design 2 Sem Hrs
Prerequisite: MATH LEVEL 4. Bridges the gap of understanding between engineering and building contractors. Identifies the weights of construction materials. Analyzes loads, stresses, and deflections of beams, floor joists, roof trusses and columns. Provides basic design experience in wood, steel, and concrete. (30-0)

ARC 214 Architectural AutoCAD 3D Basics 3 Sem Hrs
Introduces construction of 3D parametric architectural models using BIM (building information modeling) software --interface, menus, toolbars and editing. Covers creating and managing project files and sheets, using a template, using basic linework and modeling tools, adding annotations and dimensions to models, loading and using 3D architectural components from online sources, and printing methods to produce construction documents. Includes generating plan, elevation, section views and schedules from the architectural model, using rendering tools to set up camera views and creating photo-realistic renderings. Introduces analysis software. (45-0)

ARC 221 Site Preparation 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Studies fundamentals of site analysis, including utility services, metes and bounds, solar access and restrictions. Teaches elements of surveying including use of instruments, leveling, measurement of angles and distances, contours, location of site elements and development of a site plan from field data. Interprets engineering surveys, introduces landscape design, and studies computer aided design examples. Credit may be earned in ARC 221 or SKCT 105 but not in both. (45-0)

ARC 224 Building Information Modeling 3 Sem Hrs
Prerequisites: ARC 214 or permission of instructor. Requires a basic knowledge of a Windows Operating System. Continues work with modeling software to successfully and efficiently produce building information models. Uses the entire software platform, while moving through a building project, in the design integration of the following building disciplines: Architectural, Interior Design, Structural, Mechanical, Plumbing and Electrical. Includes the generation of plans, elevations, section views and schedules. (45-0)

ARC 290-299 Special Projects in Architectural Technology

ARC 314 Architectural Rendering Basics 3 Sem Hrs
Prerequisite: ARC 214 or working knowledge of AutoCAD and permission of the instructor. Introduces 3D studio VIZ rendering mechanisms/ AutoCAD rendering mechanisms. Operates camera angles, creates light sources, digital materials and applies existing digital materials to 3D model from ARC 214. Introduces rendering techniques in both 3D studio VIZ and AutoCAD. Renders bitmap image for final class project. Continues, from ARC 214, to next logical sequential rendering level. (45-0)

Art

ART 105 Art Experience 3 Sem Hrs
Designed for non-Art & Design majors. Provides an enriching experience in basic studio art and art appreciation. (30-30)

ART 107 Elements of Photography 3 Sem Hrs
Designed for non-Art and Design majors. Introduces technical operation of the camera. Emphasizes image construction, image production, and critical analysis of image aesthetics. Credit may be earned in ART 100 or ART 107, but not both. (30-30)

ART 111 Drawing I 3 Sem Hrs
Introduces techniques in various drawing media and concepts in visual art with emphasis in drawing from observation. (0-90)

ART 112 Drawing II 3 Sem Hrs
Prerequisite: ART 111. Continues the exploration of formal aspects of visual art with emphasis placed on articulating a personal response to various drawing problems. Practices drawing techniques and processes at the intermediate level using a variety of drawing media. (0-90)

ART 113 Art Education 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 3. Develops the ability to stimulate children's creative interests. Acquaints the student with a variety of teaching methods and materials appropriate to child development. (45-45)

ART 115 Two-Dimensional Design 3 Sem Hrs
Explores basic two-dimensional design elements such as: line, form, space, value, texture and color. Employs a variety of media to develop a basic design vocabulary. (30-60)

ART 116 Three-Dimensional Design 3 Sem Hrs
Prerequisite: ART 111 and ART 115. Examines a series of three-dimensional design/spacial composition problems using a variety of basic materials. (30-60)

ART 151W Art History and Appreciation I 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 3. Required of all first-year Art & Design majors. Surveys Western art and architecture from Prehistoric through Early Renaissance eras. Focuses on architecture, sculpture, and painting from Prehistoric, Ancient Egyptian, Ancient Greek and Roman, Early Christian, art of the Middle Ages, and Early Renaissance master pieces. Credit may be earned in ART 151W or ART 151HW, but not both. (45-0)

ART 152W Art History and Appreciation II 3 Sem Hrs
Prerequisites: READING LEVEL 3 or a minimum grade of "C" (2.0) in any approved college level composition I course. ART 151W is highly recommended. Required of all first-year Art & Design majors. Examines the history of Western modern art. Renaissance through contemporary periods. Emphasizes painting, sculpture, and architecture. (45-0)

ART 201 Introduction to Graphic Design 3 Sem Hrs
Introduces the fundamental principles, practices, and software of current creative industries. Identifies, applies, and practices design foundations through a survey of common creative industry assignments introducing basic standard software program techniques. Credit may be earned in ART 201 or ART 171 but not both. (0-90)

ART 210 Figure Drawing 3 Sem Hrs
Prerequisite: ART 111. Introduces drawing of the human figure in pictorial space. Emphasizes in-depth awareness of the body's underlying geometry and anatomical structure working with live model. (0-90)

ART 217 Painting I 3 Sem Hrs
Prerequisites: ART 112, ART 115. Identifies, demonstrates, and discusses painting concepts and techniques. Interprets and analyzes various processes from traditional to contemporary painting styles. (0-90)

ART 218 Painting II 3 Sem Hrs
Prerequisite: ART 217. Discusses relevant classical, modern and contemporary painting concepts and techniques. Constructs paintings based on self-devised painting styles and methods. Analyzes critically and defends individual painting portfolio. (0-90)

ART 220 Mural Painting 3 Sem Hrs
Prerequisites: ART 112 and ART 115 both with a grade of "C" or better. Introduces techniques in mural painting with an emphasis on community involvement. (0-90)

ART 222 Sculpture 3 Sem Hrs
Prerequisite: ART 116. Identifies, demonstrates and discusses sculptural concepts and techniques. Interprets and analyzes various processes from traditional to contemporary sculptural styles. Employs a variety of sculptural methods using a variety of sculptural media to produce sculpture. (0-90)

ART 224 Photography 3 Sem Hrs
Identifies, demonstrates, and discusses photographic concepts and techniques. Interprets and analyzes various processes from traditional to contemporary photographic styles. Employs concurrent technologies. Course intended for Art and Design Majors. Credit may be earned in only one of ART 101, ART 206, or ART 224. (30-60)

ART 225W Advanced Photography 3 Sem Hrs
Prerequisites: ART 224 and ART 241. A course designed to greatly expand artistic and professional tools learned in Photography, ART 224, adding advanced technical skills in camera and lighting to develop an individual photographic style. Film and digital photography assignments emphasizing experimentation in multiple areas including "in camera" compositing, professional artificial lighting techniques, non-traditional cameras, and color management techniques. Students will supply their own camera. Credit may be earned in only one of: ART 102, ART 206, or ART 225. (30-60)

ART 231 Ceramics I 3 Sem Hrs
Identifies, demonstrates, and discusses basic clay hand building techniques and surface design. Interprets and analyzes various processes of traditional and contemporary ceramic styles. Employs a variety of methods to produce ceramic vessels and objects. (0-90)

ART 232 Ceramics II 3 Sem Hrs
Prerequisite: ART 231. Identifies, demonstrates, and discusses wheel throwing and clay mold making techniques. Generates complex ceramic surface design. Interprets and analyzes various traditional and contemporary ceramic processes. Employs a variety of methods to produce a portfolio of ceramic vessels and objects. (0-90)

ART 241 Graphics Studio 1 3 Sem Hrs
Introduces digital photography manipulation software. Identifies and applies basic to advanced image manipulation techniques through projects relevant to current graphic design and photography industries. Credit may be earned in ART 241 or ART 271 but not both. (0-90)

ART 242 Graphics Studio 2 3 Sem Hrs
Introduces digital illustration and page layout software. Identifies and applies vector illustration and page layout techniques to projects relevant to digital illustration and page layout design industries. Credit may be earned in only one of: ART 242; or both ART 276 and ART 277. (0-90)

ART 243 Graphics Studio 3 3 Sem Hrs
Prerequisites: ART 241 or ART 242 with a grade of "C" or better. Introduces the foundations of web design. Identifies and applies basic HTML and CSS code through web design software to projects relevant to the current trends in the web design industry. Credit may be earned in ART 243 or ART 279 but not both. (0-90)

ART 251W Architectural History 3 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Examines the historical development of architecture as a major art form. Emphasizes this development in relation to man's knowledge of building techniques and available materials as affected by geographic, economic, political, and religious influences. (45-0)

ART 255W Contemporary Art History 3 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3; or any ENG Composition I course with a grade of "C" or higher; or ART 152W with a grade of "C" or higher. Examines Contemporary Art using contemporary theoretical methods. Engages in readings, discussions, and written analysis of globally recognized artists, artworks, and stylistic trends. (45-0)

ART 256W Art History Travel 3 Sem Hrs
Prerequisites: Completion of any ENG Composition I course with a grade of "C" or higher; or ART 152W with a grade of "C" or higher. Examines art from major collections in specified locale. Provides opportunity for travel, engagement in related readings, and a variety of discussions on artworks, relevant museum(s), and historical contexts. Includes written formal analysis using contemporary theoretical methods. Expenses for travel are the responsibility of the student. (45-0)

ART 262 Art and Design Internship 1-3 Sem Hrs
Prerequisites: Second year art student with minimum of a 2.5 GPA and instructor approval. The internship opportunity provides hands-on work experience in an off-site professional Art or Design business, company, gallery, museum, or organization. Requires 2 hours per week per credit hour under direct supervision of onsite internship coordinator. (30-60-90)

ART 280 Printmaking 3 Sem Hrs
Prerequisites: ART 112 and ART 115 both with a grade of "C" or better. Explores various traditional and contemporary printmaking methods and techniques to produce prints. Employs concurrent technologies such as block printing press and digital imaging methods. (0-90)

ART 284 Typography 3 Sem Hrs
Prerequisite: ART 241 or ART 242 with a grade of "C" or higher. Provides an introduction to the fundamental aspects of typography. Identifies and applies the history of typography, vocabulary terms, and foundational typography techniques to a survey of typography design assignments. (0-90)

ART 286 Digital Animation 3 Sem Hrs
Prerequisites: ART 241 or ART 242 with a grade of "C" or higher. Introduces the fundamentals of digital animation. Identifies and applies various digital animation techniques to a survey of projects using industry standard digital animation software. (0-90)

ART 289 Art and Design Portfolio 3 Sem Hrs
Prerequisites: ART 112 and ART 116 and ART 152W. Completes an art portfolio package for both school applications and job applications. Credit may be earned in only one of ART 288, ART 289 or IHU 289. (0-90)

ART 290-299 Special Projects in Art Sem Hrs

ASEP (GM)

ASEP 101 Engine Repair Level 1 3 Sem Hrs
Introduces student to inspection of gasoline internal combustion engines. Practices NATEF tasks to MLR (maintenance and light repair) level related to gasoline engines. Requires meeting all related GM ASEP training requirements. (45-18)

ASEP 102 Automatic Transmission Level 1 3 Sem Hrs
Introduces inspection and fluid testing of many automatic transmissions. Practices NATEF tasks to MLR (maintenance and light repair) level related to automatic transmissions. Requires meeting all related GM ASEP training requirements. (45-18)

ASEP 103 Manual Drive Trains and Axles Level 1 2 Sem Hrs
Introduces student to inspection and maintenance of front wheel and four wheel drive front bearings, hubs and seals. Practices NATEF tasks to MLR (maintenance and light repair) level related to manual drive trains and axles. Meets all related GM ASEP training requirements. (30-24)

ASEP 104 Suspension and Steering Level 1 3 Sem Hrs
Introduces inspection and maintenance of suspension and steering systems. Practices NATEF tasks to MLR (maintenance and light repair) level related to suspension and steering systems. Requires meeting all related GM ASEP training requirements. (45-36)

ASEP 105 Brakes Level 1 2 Sem Hrs

Introduces inspection and maintenance of hydraulic, mechanical and electrical braking systems. Practices NATEF tasks to MLR (maintenance and light repair) level related to brake systems. Requires meeting all related GM ASEP training requirements. (30-24)

ASEP 106 Electrical/Electronic Systems Level 1 4 Sem Hrs

Introduces basic electrical/electronic systems on today's high tech vehicles. Practices NATEF tasks to MLR (maintenance and light repair) level related to electrical/electronic systems. Requires meeting all related GM ASEP training requirements. (60-48)

ASEP 107 Heating and Air Conditioning Level 1 2 Sem Hrs

Introduces inspection and maintenance of vehicle HVAC systems. Practices NATEF tasks to MLR (maintenance and light repair) level related to HVAC systems. Requires meeting all related GM ASEP training requirements. (30-15)

ASEP 108 Engine Performance Level 1 3 Sem Hrs

Introduces basic fuel, emissions and electronic control of today's modern vehicles. Practices NATEF tasks to MLR (maintenance and light repair) level related to engine performance systems. Requires meeting all related GM ASEP training requirements. (45-27)

ASEP 149 MLR Capstone 1 Sem Hr

Reviews test taking and test preparation techniques for a computer based test. Completes the ASE G1 MLR technician certification exam, demonstrating knowledge of automotive service at a maintenance and light repair level. (15-0)

ASEP 150 Dealership Work Experience 1 1 Sem Hr

Practices automotive repair skills in a licensed repair facility. Requires approximately 40 hours a week for a minimum 6 weeks of work experience.(6-240)

ASEP 151 Engine Repair Level 2 1 Sem Hr

Prerequisites: ASEP 101 and ASEP 149. Practices the service and repair of gasoline internal combustion engines. Practices NATEF tasks to AST (Automotive Service Technology) level related to gasoline engines. Requires meeting all related GM ASEP training requirements. Note: Student must complete necessary paperwork for state of Michigan Automotive Repair Training Permit. (15-25)

ASEP 152 Automatic Transmission Level 2 1 Sem Hr

Prerequisites: ASEP 102 and ASEP 149. Practices the service and repair of many automatic transmissions. Practices NATEF tasks to AST (Automotive Service Technology) level related to automatic transmissions. Requires meeting all related GM ASEP training requirements.(15-15)

ASEP 153 Manual Drive Trains and Axles Level 2 1 Sem Hr

Prerequisites: ASEP 103 and ASEP 149. Practices the service of manual drive trains and axles. Practices NATEF tasks to AST (Automotive Service Technology) level related to manual drive trains and axles. Requires meeting all related GM ASEP training requirements. (15-15)

ASEP 154 Suspension and Steering Level 2 2 Sem Hrs

Prerequisites: ASEP 104 and ASEP 149. Practices the service of suspension and steering systems. Practices NATEF tasks to AST (Automotive Service Technology) level related to suspension and steering systems. Requires meeting all related GM ASEP training requirements. (30-10)

ASEP 155 Brakes Level 2 1 Sem Hr

Prerequisites: ASEP 105 and ASEP 149. Practices the service of braking systems. Practices NATEF tasks to AST (Automotive Service Technology) level related to brake systems. Requires meeting all related GM ASEP training requirements. (15-15)

ASEP 156 Electrical-Electronic Systems Level 2 2 Sem Hrs

Prerequisites: ASEP 106 and ASEP 149. Practices the service of electrical/electronic systems on today's high tech vehicles. Practices NATEF tasks to AST (Automotive Service Technology) level related to electrical/electronic systems. Requires meeting all related GM ASEP training requirements.(30-20)

ASEP 157 Heating and Air Conditioning Level 2 1 Sem Hr

Prerequisites: ASEP 107 and ASEP 149. Practices the service of vehicle HVAC systems. Practices NATEF tasks to AST (Automotive Service Technology) level related to HVAC systems. Requires meeting all related GM ASEP training requirements. (15-15)

ASEP 158 Engine Performance Level 2 2 Sem Hrs

Prerequisites: ASEP 108 and ASEP 149. Practices the service of fuel, emissions and electronic control of today's modern vehicle's. Practices NATEF tasks to AST (Automotive Service Technology) level related to engine performance systems. Requires meeting all related GM ASEP training requirements. (30-20)

ASEP 160 Dealership Work Experience 2 1 Sem Hr

Prerequisite: ASEP 150. Allows students to practice automotive repair skills in a licensed repair facility. Requires approximately 40 hours a week for a minimum 6 weeks of work experience.(6-240)

ASEP 170 Dealership Work Experience 3 1 Sem Hr

Prerequisite: ASEP 160. Allows students to practice automotive repair skills in a licensed repair facility. Requires approximately 40 hours a week for a minimum 6 weeks of work experience.(6-240)

ASEP 180 Dealership Work Experience 4 1 Sem Hr

Prerequisite: ASEP 170. Allows students to practice automotive repair skills in a licensed repair facility. Requires approximately 40 hours a week for a minimum 6 weeks of work experience.(6-240)

ASEP 201W Engine Repair Level 3 1 Sem Hr

Prerequisites: ASEP 151. Practices the diagnostic procedures and repair of gasoline internal combustion engines. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to gasoline engines. Requires meeting all related GM ASEP training requirements. (15-33)

ASEP 202W Automatic Transmission Level 3 3 Sem Hrs

Prerequisite: ASEP 152. Practices the diagnostic procedures and repair of many automatic transmissions. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to automatic transmissions. Requires meeting all related GM ASEP training requirements.(45-51)

ASEP 203 Manual Drive Trains and Axles Level 3 1 Sem Hr

Prerequisite: ASEP 153. Practices the diagnostic procedures and repair of manual drive trains and axles. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to manual drive trains and axles. Requires meeting all related GM ASEP training requirements.(15-33)

ASEP 204 Suspension and Steering Level 3 1 Sem Hr

Prerequisite: ASEP 154. Practices the diagnostic procedures and repair of suspension and steering systems. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to suspension and steering systems. Requires meeting all related GM ASEP training requirements. (15-9)

ASEP 205 Brakes Level 3 1 Sem Hr

Prerequisite: ASEP 155 with a minimum grade of "C". Practices the diagnostic procedures and repair of braking systems. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to brake systems. Requires meeting all related GM ASEP training requirements. (15-9)

ASEP 206	Electrical-Electronic Systems Level 3	1 Sem Hr
Prerequisite: ASEP 156. Practices the diagnostic procedures and repair of electrical/electronic systems on today's high tech vehicles. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to electrical/electronic systems. Requires meeting all related GM ASEP training requirements. (15-33)		
ASEP 207	Heating and Air Conditioning Level 3	1 Sem Hr
Prerequisite: ASEP 157. Practices the diagnostic procedures and repair of vehicle HVAC systems. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to HVAC systems. Requires meeting all related GM ASEP training requirements. (15-9)		
ASEP 208W	Engine Performance Level 3	2 Sem Hrs
Prerequisite: ASEP 158. Practices the diagnostic procedures and repair of fuel, emissions and electronic control of today's modern vehicle's. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to engine performance systems. Requires meeting all related GM ASEP training requirements.(30-18)		
ASEP 219	Basic Service Advising	2 Sem Hrs
Introduces entry level skills needed to perform as a service consultant in a service repair facility. Emphasizes new car dealerships; however also benefits aftermarket shops as well. (60-0)		
ASEP 229	Advanced Service Advising	2 Sem Hrs
Prerequisite: ASEP 219 with a minimum grade of "C". Introduces advanced level skills needed to perform as a service consultant in a service repair facility. Emphasizes new car dealerships; however also benefits aftermarket shops as well. (60-0)		
ASEP 249	ASEP Capstone	1 Sem Hr
Reviews test taking and test preparation techniques for a computer based test. Completes the ASE A1-A8 technician certification exams, demonstrating knowledge of automotive service at a master automotive service technician level. Requires meeting all related GM ASEP training requirements. (15.0)		

American Sign Language

ASL 111	American Sign Language I	3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Introduces American Sign Language, the language of many deaf or hearing impaired individuals. Identifies grammatical and syntactic structure of ASL. Demonstrates receptive and expressive ASL language. Conducts class in ASL. Emphasizes full immersion where nonverbal communication will be practiced. (45-0)		
ASL 112	American Sign Language II	4 Sem Hrs
Prerequisites: ASL 111 with a minimum grade of C, or permission of ASL coordinator. Continues study of ASL expanding upon knowledge, grammar, skills and vocabulary. Continues study of ASL receptive and expressive skills. Uses full immersion in classroom, and nonverbal communication will be practiced. (60-0)		
ASL 113	American Sign Language Fingerspelling A	1 Sem Hr
Introduces the smallest meaningful units of American Sign Language. Focuses on fingerspelling as a part of the communication process of American Sign Language in order to recognize and generate hand shapes and numbers used in American Sign Language. Addresses expressive and receptive skills. (15-0)		

ASL 114	American Sign Language Fingerspelling B	1 Sem Hr
Prerequisite: ASL 113. Continues practice of the smallest meaningful units of American Sign Language. Focuses on fingerspelling as a part of the communication process of American Language in order to recognize hand shapes and numbers used in American Sign Language. Expands the ability to generate ASL hand shapes and numbers when prompted and within the appropriate context. Addresses expressive and receptive skills. (15-0)		
ASL 200W	Deaf Culture	3 Sem Hrs
Studies the Deaf community and culture. Addresses a broad array of topics, including history, rules for social interaction, group norms, identity, language and values. Discusses Deaf perspective and its interface with the hearing culture. (45-0)		
ASL 211	American Sign Language III	4 Sem Hrs
Prerequisite: ASL 112 with a minimum grade of C, or permission of ASL coordinator. Builds upon previous knowledge and skills in ASL emphasizing expressive skills. Participates in class in ASL. Emphasizes full immersion where nonverbal communication is practiced. (60-0)		
ASL 212	American Sign Language IV	4 Sem Hrs
Prerequisites: ASL 211 with a minimum grade of C, or permission of ASL coordinator. Provides opportunity to develop and refine advanced skills and fluency in ASL. Conducts class in ASL. Emphasizes full immersion where nonverbal communication will be practiced.(60-0)		
ASL 290-299	Special Projects in American Sign Language	

Astronomy

AST 111	Introduction to Astronomy	3 Sem Hrs
READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Observes celestial objects in the night sky and studies their motions. Discusses the origin, characteristics, and evolution of the solar system, stars, and galaxies. Emphasizes the way in which our understanding of the universe has changed over human history through the study of astronomy and uses astronomical instruments. (45-0)		
AST 111L	Astronomical Investigation	1 Sem Hr
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2, and AST 111 (or concurrent enrollment). Provides a variety of introductory investigations through laboratory experiments to enhance knowledge of introductory astronomy including celestial coordinates, planetary motion, astronomical laws, telescopes, scale of the solar system, stellar distances, evolution and other astronomical concepts. Identifies many constellations and stars in the current night sky. (0-30)		
AST 290-299	Special Projects in Astronomy	Sem Hr

Auto Service

AUT 100	Introduction to Automotive Service	3 Sem Hrs
Introduces the Automotive Service facility, basic tools and equipment, service publications, safety practices, the automobile, its components, and professionalism. Concentrates on terminology and general component operation. (30-25)		
AUT 108	Introductory Automotive Electronics	3 Sem Hrs
Studies automotive electrical and electronic fundamentals, magnetism, and electrical test equipment, terminology, operation, and diagnosis. Develops skills in establishing an electrical base for advanced electrical/electronic courses and in controlled learning experiences with basic electricity and electronics using meters and test equipment. (35-25)		

AUT 109 Hybrid Electrical Vehicle Safety 1 Sem Hr

Studies safety procedures required for working on a Hybrid Electric Vehicle and its systems. Includes high-voltage vehicle safety, personal protection, tools and equipment handling. Demonstrates and utilizes hybrid technology testing and diagnostic testing equipment. Identifies major components, high voltage wires, electric machines, inverters, converters, test points and sensing systems. Handles high voltage and low voltage batteries. Safely demonstrates jump-start procedures. Disables and enables high voltage systems, set into service mode. Identifies examples of emergency first responder key procedures. 100% mastery of skills is required to pass this course. (15-0)

AUT 110 Automotive Electronics Service 4 Sem Hrs

Prerequisite: WELD 101 and WELD 108; also Minimum C (2.0) grade in both AUT 100 and AUT 108. Studies electrical test equipment, battery, wiring diagram, starting and charging system terminology, operation, and diagnosis. Develops skills in diagnosis of battery, diagnosis and repair of starting and charging systems and application of wiring diagrams. (40-40)

AUT 112W Engine Service 6 Sem Hrs

Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Studies automotive gasoline engines, terminology, operation, and diagnosis. Develops skills in controlled learning experiences on laboratory engine assemblies. (45-75)

AUT 114 Brake System Service 5 Sem Hrs

Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Studies drum, disc, hydraulic, power assist, antilock terminology, operation, and diagnosis. Develops skills on drum, disc, hydraulic, power assist, and antilock brake systems. (40-60)

AUT 119 Hybrid Electric Vehicle Service I 5 Sem Hrs

Prerequisites: AUT 109 with a minimum grade of "A". Studies the operating principles, maintenance, trouble shooting, and service technology of hybrid electric vehicles systems. Includes High-Voltage vehicle safety, operation of hybrid engine, internal combustion engines (ICE), electric motors. Practices service techniques for high voltage inverters, converters and diagnostic systems. Diagnoses and services the high voltage battery, wiring, and climate control systems. Practices boost starting procedures of low voltage battery. Practices disabling and enabling high voltage system for emergency first responder procedures. (25-50)

AUT 210W Body Electronics Service 3 Sem Hrs

Prerequisite: AUT 100 and AUT 108 with a minimum grade of "C" (2.0).. Studies body wiring diagrams, operation and location of electrical devices. Develops skills in the diagnosis of malfunctions within accessory and convenience circuits. (30-30)

AUT 212W Suspension System Service 7 Sem Hrs

Prerequisite: AUT 100 and AUT 108 with a minimum grade of "C" (2.0). Studies frame, steering, and suspension system terminology, operation, and diagnosis. Develops skills in frame, unibody, steering, suspension, four wheel drive and four wheel alignment. (56-84)

AUT 214W Heating/Air Conditioning Service 5 Sem Hrs

Prerequisite: AUT 100 and AUT 108 with a minimum grade of "C" (2.0). Studies passenger car and light truck heating and air conditioning terminology, operation and diagnosis. Develops skills in diagnosis and repair of the heating and air conditioning system components. (50-50)

AUT 216 Driveline Service 6 Sem Hrs

Prerequisite: WELD 101 and WELD 108; also Minimum "C" (2.0) grade in both AUT 112 and 212. Studies passenger car and light truck clutch, manual transmission, driveshaft, differential, transaxle, front driving axle, and transfer case terminology, operation, and diagnosis. Develops skills in diagnosis, adjustment, and repair of clutches, manual transmissions, driveshafts, differentials, transaxles, front driving axles, and transfer cases. (60-60)

AUT 218W Automatic Electronic Transmission Service 8 Sem Hrs

Prerequisites: Minimum "C" (2.0) grade in both AUT 112 and AUT 212. Studies passenger car and light truck automatic transmission terminology, operation, and diagnosis. Develops skills in diagnosis, adjustment, and repair of passenger car and light truck rear wheel drive and front wheel drive automatic transmissions. Credit may be earned in AUT 122 or AUT 218 but not in both. (80-100)

AUT 226 Advance Engine Electronics & Fuel System Service 7 Sem Hrs

Prerequisites: Minimum "C" (2.0) grade in AUT 110, AUT 210, and AUT 112. Studies electronic inputs to the computerized engine controls; units of instruction necessary to develop a thorough understanding of induction systems and injection systems. Develops skills through controlled learning experiences with sensors, fuel delivery, and fuel injection systems. Credit may be earned in AUT 220 and AUT 222 or AUT 226 but not in both. (60-90)

AUT 228W Electronic Engine Performance & Emission Control 7 Sem Hrs

Prerequisite: Minimum "C" (2.0) grade in AUT 110, AUT 112 and AUT 210. Studies units of instruction necessary for a thorough understanding of ignition systems, emission control systems, and driveability diagnosis. Develops skills through controlled learning experiences with ignition systems, emission control systems, and driveability diagnosis. Credit may be earned in AUT 224 or AUT 228 but not in both. (60-90)

AUT 239 Automotive Service Information Systems 1 Sem Hr

Develops skills to use the current operating system on a computer and to learn navigational skills for the aftermarket automotive service information systems. (5-15)

AUT 252 Automotive Performance Fundamentals 5 Sem Hrs

Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Teaches high performance aspects of automotive engines, engine support systems, drivetrains, suspension and safety. (47-28)

AUT 261 Auto Service Skills Internship I 1 Sem Hr

Prerequisites: Michigan Mechanic Training Permit. Provides work experience in the operation, maintenance, and service of customer vehicles in a licensed repair facility. Emphasizes the areas of engine, suspension, brake, and electrical repairs. (0-150)

AUT 262 Auto Service Skills Internship II 1 Sem Hr

Prerequisite: Michigan Mechanic Training Permit. Provides work experience in the operation, maintenance, and service of customer vehicles in a licensed repair facility. Emphasizes areas of drivelines, automatic transmission, HVAC, suspension, and electrical repair. (0-150)

AUT 290-299 Special Projects in Automotive Service**Automotive Service****AUTO 101 Engine Repair Level 1 3 Sem Hrs**

Introduces student to inspection of gasoline internal combustion engines. Practices NATEF tasks to MLR (maintenance and light repair) level related to gasoline engines. (45-18)

AUTO 102 Automatic Transmission Level 1 3 Sem Hrs

Introduces inspection and fluid testing of many automatic transmissions. Practices NATEF tasks to MLR (maintenance and light repair) level related to automatic transmissions. (45-18)

AUTO 103 Manual Drive Trains and Axles Level 1 2 Sem Hrs

Introduces inspection and maintenance of front wheel and four wheel drive front bearings, hubs and seals. Practices NATEF tasks to MLR (maintenance and light repair) level related to manual drive trains and axles. (30-24)

AUTO 104	Suspension and Steering Level 1	3 Sem Hrs
Introduces inspection and maintenance of suspension and steering systems. Practices NATEF tasks to MLR (maintenance and light repair) level related to suspension and steering systems. (45-36)		
AUTO 105	Brakes Level 1	2 Sem Hrs
Introduces inspection and maintenance of hydraulic, mechanical and electrical braking systems. Practices NATEF tasks to MLR (maintenance and light repair) level related to brake systems. (30-24)		
AUTO 106	Electrical/Electronic Systems Level 1	4 Sem Hrs
Introduces basic electrical/electronic systems on today's high tech vehicles. Practices NATEF tasks to MLR (maintenance and light repair) level related to electrical/electronic systems. (60-48)		
AUTO 107	Heating and Air Conditioning Level 1	2 Sem Hrs
Introduces inspection and maintenance of vehicle HVAC systems. Practices NATEF tasks to MLR (maintenance and light repair) level related to HVAC systems. (30-15)		
AUTO 108	Engine Performance Level 1	3 Sem Hrs
Introduces basic fuel, emissions and electronic control of today's modern vehicles. Practices NATEF tasks to MLR (maintenance and light repair) level related to engine performance systems. (45-27)		
AUTO 110	MLR Internship	1 Sem Hr
Introduces student to basic operations of a modern automotive repair facility. Student will complete 80 hours of work experience. (0-80)		
AUTO 149	MLR Capstone	1 Sem Hr
Reviews test taking and test preparation techniques for a computer based test. Completes the ASE G1 MLR technician certification exam, demonstrating knowledge of automotive service at a maintenance and light repair level. (15-0)		
AUTO 151	Engine Repair Level 2	1 Sem Hr
Prerequisites: AUTO 101 and AUTO 149. Practices the service and repair of gasoline internal combustion engines. Practices NATEF tasks to AST (Automotive Service Technology) level related to gasoline engines. Note: Student must complete necessary paperwork for state of Michigan Automotive Repair Training Permit. (15-25)		
AUTO 152	Automatic Transmission Level 2	1 Sem Hr
Prerequisites: AUTO 102 and AUTO 149. Practices the service and repair of many automatic transmissions. Practices NATEF tasks to AST (Automotive Service Technology) level related to automatic transmissions. (15-15)		
AUTO 153	Manual Drive Trains and Axles Level 2	1 Sem Hr
Prerequisites: AUTO 103 and AUTO 149. Practices the service of manual drive trains and axles. Practices NATEF tasks to AST (Automotive Service Technology) level related to manual drive trains and axles. (15-15)		
AUTO 154	Suspension and Steering Level 2	2 Sem Hrs
Prerequisites: AUTO 104 and AUTO 149. Practice the service of suspension and steering systems. Practices NATEF tasks to AST (Automotive Service Technology) level related to suspension and steering systems. (30-10)		
AUTO 155	Brakes Level 2	1 Sem Hr
Prerequisites: AUTO 105 and AUTO 149. Practices the service of braking systems. Practices NATEF tasks to AST (Automotive Service Technology) level related to brake systems. (15-15)		
AUTO 156	Electrical-Electronic Systems Level 2	2 Sem Hrs
Prerequisites: AUTO 106 and AUTO 149. Practices the service of electrical/electronic systems on today's high tech vehicles. Practices NATEF tasks to AST (Automotive Service Technology) level related to electrical/electronic systems. (30-20)		

AUTO 157	Heating and Air Conditioning Level 2	1 Sem Hr
Prerequisites: AUTO 107 and AUTO 149. Practices the service of vehicle HVAC systems. Practices NATEF tasks to AST (Automotive Service Technology) level related to HVAC systems. (15-15)		
AUTO 158	Engine Performance Level 2	2 Sem Hrs
Prerequisites: AUTO 108 and AUTO 149. Practices the service of fuel, emissions and electronic control of today's modern vehicle's. Practices NATEF tasks to AST (Automotive Service Technology) level related to engine performance systems. (30-20)		
AUTO 160	AST Internship	1 Sem Hr
Prerequisite: AUTO 110. Allows students to practice automotive repair skills in a repair facility. Student will complete 80 hours of work experience. (0-80)		
AUTO 201W	Engine Repair Level 3	1 Sem Hr
Prerequisite: AUTO 151 with a grade of "C" or better. Practices the diagnostic procedures and repair of gasoline internal combustion engines. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to gasoline engines. (15-33)		
AUTO 202W	Automatic Transmission Level 3	3 Sem Hrs
Prerequisite: AUTO 152 with a minimum grade of "C". Practices the diagnostic procedures and repair of many automatic transmissions. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to automatic transmissions. (45-51)		
AUTO 203	Manual Drive Trains and Axles Level 3	1 Sem Hr
Prerequisite: AUTO 153 with a minimum grade of "C". Practices the diagnostic procedures and repair of manual drive trains and axles. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to manual drive trains and axles. (15-33)		
AUTO 204	Suspension and Steering Level 3	1 Sem Hr
Prerequisite: AUTO 154 with a minimum grade of "C". Practices the diagnostic procedures and repair of suspension and steering systems. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to suspension and steering systems. (15-9)		
AUTO 205	Brakes Level 3	1 Sem Hr
Prerequisite: AUTO 155. Practices the diagnostic procedures and repair of braking systems. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to brake systems. (15-9)		
AUTO 206	Electrical-Electronic Systems Level 3	1 Sem Hr
Prerequisite: AUTO 156 with a minimum grade of "C". Practices the diagnostic procedures and repair of electrical/electronic systems on today's high tech vehicles. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to electrical/electronic systems. (15-33)		
AUTO 207	Heating and Air Conditioning Level 3	1 Sem Hr
Prerequisite: AUTO 157 with a minimum grade of "C". Practices the diagnostic procedures and repair of vehicle HVAC systems. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to HVAC systems. (15-9)		
AUTO 208W	Engine Performance Level 3	2 Sem Hrs
Prerequisite: AUTO 158 with a minimum grade of "C". Practices the diagnostic procedures and repair of fuel, emissions and electronic control of today's modern vehicle's. Practices NATEF tasks to MAST (Master Automotive Service Technology) level related to engine performance systems. (30-18)		

AUTO 216 Hybrid Electrical Vehicle Safety 1 Sem Hr
Studies safety procedures required for working on a Hybrid Electric Vehicle and its systems. Includes high-voltage vehicle safety, personal protection, tools and equipment handling. Demonstrates and utilizes hybrid technology testing and diagnostic testing equipment. Identifies major components, high voltage wires, electric machines, inverters, converters, test points and sensing systems. Handles high voltage and low voltage batteries. Safely demonstrates jump-start procedures. Disables and enables high voltage systems, set into service mode. Identifies examples of emergency first responder key procedures. 100% mastery of skills is required to pass this course. (15-0)

AUTO 226 Hybrid Electric Vehicle Service I 5 Sem Hrs
Prerequisites: AUTO 216 with a minimum grade of "A". Studies the operating principles, maintenance, trouble shooting, and service technology of hybrid electric vehicles systems. Includes High-Voltage vehicle safety, operation of hybrid engine, internal combustion engines (ICE), electric motors. Practices service techniques for high voltage inverters, converters and diagnostic systems. Diagnoses and services the high voltage battery, wiring, and climate control systems. Practices boost starting procedures of low voltage battery. Practices disabling and enabling high voltage system for emergency first responder procedures. (25-50)

AUTO 249 AUTO Capstone 1 Sem Hr
Reviews test taking and test preparation techniques for a computer based test. Completes the ASE A1-A8 technician certification exams, demonstrating knowledge of automotive service at a master automotive service technician level. (15-0)

Biology

BIO 101W Introduction to Anatomy And Physiology 4 Sem Hrs
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. An introduction to basic human anatomy and physiology taught in a lecture-demonstration format. Includes basic principles of the structures and functions of the human body and the terminology related to these topics. (60-0)

BIO 110W Environmental Science 4 Sem Hrs
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Surveys the broad field of environmental science using local, regional, and global examples. Includes the following major topics: the scientific method, an introduction to chemistry, ecological principles, types of pollutants, energy principles, population issues, the environmental impact of human choices, and the role of economics, risk perception, and political choices in environmental decision-making. Exposes students to a variety of field, survey, and laboratory techniques useful in assessing environmental quality. (45-45)

BIO 111W Principles of Biology 4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Introduces the fundamental concepts underlying biology and the relevance of these concepts to the student as a member of our global society. Includes the basic chemistry of the cell, cell structure and metabolism, molecular biology, genetics, the origin and evolution of living things, and ecological principles. Applicable as science lecture and laboratory credit for non-majors. Not appropriate for biology majors. Credit may be earned in BIO 111W or BIO 111HW but not in both. (45-45)

BIO 113 Trees and Shrubs Of Michigan 1 Sem Hr
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Identification of the Michigan trees and shrubs indigenous to the Saginaw Valley. Methods used in this field course include use of the leaf, bark, twig, flower and silhouette. Historical and practical information presented as appropriate. (15-0)

BIO 114 Animal Behavior - The Wolf 1 Sem Hr
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Designed to provide student with introduction to study of animal behavior with focus on the wolf. Topics covered will include development of behavior patterns, social behavior, effects of imprinting, role of pheromones in sexual behavior, and hunting behavior. Student will prepare ethogram comparing different subspecies and various breeds of dogs. A weekend field trip is required with student paying own expenses. (15-0)

BIO 114A Animal Behavior - Dolphin 1 Sem Hr
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Provides an introduction to the student of dolphin behavior dolphin. Includes study of basic animal physiology, colony and pair dynamics, behavior modification and training, maternity behavior, basic conservation issues, habitat ecology, and natural history. Includes field activities involving observational and hands-on activities during a field trip at student's expense. (15-0)

BIO 116W Winter Ecology 2 Sem Hrs
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Explores the adaptations and coping behaviors of organisms and communities to the additional stresses placed on them by winter. Includes such major topics as: weather and climate, hibernation, freezing avoidance, community changes, and behavior of animals. Includes identification of plants, animal tracks, insect galls, bird nests, and various kinds of snow conditions. Requires a weekend field trip. Student must pay own expenses. (30-0)

BIO 117 Birds of Michigan 1 Sem Hr
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Identification of resident and migratory birds by sight and song. Includes bird nesting, feeding and territorial behavior. Taught primarily in the field. (15-0)

BIO 118 Michigan Wildflowers 1 Sem Hr
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Identification of common seasonal wildflowers of the open field and deciduous woods. Includes ecological significance of major families of flowers. Historical and practical information presented when appropriate. Taught primarily in the field. (15-0)

BIO 119 Stream Ecology 1 Sem Hr
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Introduces the physical environmental factors that affect organisms inhabiting streams as well as the human influence. Emphasizes the energy flow through stream ecosystems along with the lifecycles and interdependencies of stream animals. Includes fieldwork on at least four different kinds of streams. Includes a weekend field trip with the student paying own expenses. Credit may be earned BIO 119 or 219 but not both. (15-0)

BIO 123 Survey of Michigan Plant Communities 2 Sem Hrs
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Discusses the influence of physical factors on the varieties of plant communities. Uses the interdependency of organisms as an underlying theme. Examines effects of humans on the nature of plant communities. Emphasizes fieldwork and use of field keys and reference materials for plant identification. Taught primarily in the field. Requires a weekend field trip. (30 - 0)

BIO 126 Ecology and Natural History of Isle Royale National Park 1 Sem Hr
Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Introduces a remote area of ecosystems. Discusses key native and introduced species of plants and animals. Emphasizes the uniqueness, yet interdependency of organisms. Highlights the long-studied island Wolf-Moose interaction. Requires a three-day trip to the island at student expense. (15-0)

BIO 126AW Ecology and Natural History of the Appalachia Region 1 Sem Hr

Prerequisite: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 2. Introduces a unique area of ecosystems. Discusses key native and introduced species of plants and animals. Emphasized keystone species and interdependency of organisms. Highlights the Riparian Flora and Fauna, including the reintroduced red wolf species. Requires a three day trip to the Appalachian area at student's expense. (15-0)

BIO 130W Introduction to Chemistry and Cell Biology 3 Sem Hrs

Prerequisites: READING LEVEL 3 and WRITING LEVEL 3 and MATH LEVEL 2. Introduces the principles and concepts of chemistry and cell biology for students entering allied health curricula. Includes basic math for science, the laws of thermodynamics, theory of atomic structure, chemical bonding, acids, bases, and buffers; introduction to organic chemistry, cell structure and function, basic metabolic pathways, mitosis, meiosis, classical and physiological genetics. Recommended as a preparatory class for BIO 140 and BIO 152 for students with limited background in cell biology and/or chemistry. (30-30)

BIO 140W Essentials Of Human Anatomy & Physiology 5 Sem Hrs

Prerequisites: READING LEVEL 3; and WRITING LEVEL 3 and MATH LEVEL 3. Introduces the basic principles and concepts of chemistry, biochemistry and cell biology, as well as human anatomy and physiology for students entering certain allied health curricula. Includes structures and functions of the human body and related terminology. (75-45)

BIO 152W Human Anatomy & Physiology I 4 Sem Hrs

Prerequisites: READING LEVEL 3; and WRITING LEVEL 3 and MATH LEVEL 3. Recommended: BIO 130 or high school chemistry. Prepares for various allied health and nursing professions as first course of two semester sequence. Provides an introduction to the basic principles of chemistry and biochemistry as they relate to human physiology. Gives major consideration to the anatomy and physiology of cells and tissues and the following systems: skeletal, muscle, nervous, and endocrine. (45-45)

BIO 153W Human Anatomy & Physiology II 4 Sem Hrs

Prerequisites: READING LEVEL 3, WRITING LEVEL 3 AND MATH LEVEL 3; BIO 152 with a "C" (2.0) minimum grade or BIO 140 with a "B" (3.0) minimum grade. BIO 153 is a continuation of BIO 152. Investigates the anatomy and physiology of the following systems: circulatory, lymphatic, respiratory, digestive, urinary, and reproductive. Includes human developmental biology and fluids and electrolytes. (45-45)

BIO 160AW Human Anatomy & Physiology Review 1 Sem Hr

Prerequisites: READING LEVEL 3, WRITING LEVEL 3 AND MATH LEVEL 3; and BIO 140 or BIO 153 with a "C" (2.0) minimum grade. Provides review and update of contents of cardiovascular system from BIO 140 or BIO 153 using cooperative learning found in Health Care Team concept. Focuses on developing and strengthening abilities in critical thinking, problem solving, and student directed learning. (15-0)

BIO 160BW A & P Case Studies 2 Sem Hrs

Prerequisites: READING LEVEL 2, WRITING LEVEL 2 AND MATH LEVEL 3 and BIO 140 or BIO 153 or BIO 241 with a "C" (2.0) minimum grade. Provides comprehensive review and updates of contents of human anatomy and physiology using case studies of six different body systems (cardiovascular/respiratory/nervous/digestive/renal/endocrine). Focuses on developing critical thinking, problem solving, and student directed learning while establishing mastery of material. (30-0)

BIO 171 Integrated General Biology I 4 Sem Hrs

Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 5 and CHM 111 with a grade of C or higher, or approval of instructor. Studies the scientific method, diversity of life with emphasis on biochemistry, cell structure and function, bioenergetics and metabolism, molecular, Mendelian and developmental genetics. (45-45)

BIO 172W Integrated General Biology II 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 4 and successful completion, with a minimum grade of C (2.0), of both high school chemistry and high school biology or CHM 101 and BIO 111. BIO 172 is one of two introductory courses for biology majors and related fields. Together, BIO 171 and BIO 172 constitute a complete introduction to college level biology. These courses may be taken in any order regardless of the course numbers. Includes a survey of the five kingdoms with emphasis on comparative anatomy, development and ecological roles, evolutionary patterns, population genetics, embryology behavior and ecology. (45-45)

BIO 199 Human Heredity And Sexuality 4 Sem Hrs

Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 2 and High School biology and chemistry. Introduces the fundamental concepts underlying biology with a focus on heredity and sexuality. Includes cell biology, inborn errors of metabolism, reproduction and development, immunology and HIV/AIDS, oncogenes and cancer, plus classical, population and molecular genetics. Explores the frontiers of health and medicine including reproductive technologies, biotechnology, gene therapy, prenatal diagnosis, genetic screening and the bioethics of the Human Genome Project. Includes case study analysis and laboratory investigations related to cellular and population genetics and biotechnology. Credit may be earned in BIO 199 or BIO 199H but not in both. (45-45)

BIO 199H Human Heredity And Sexuality - Honors 4 Sem Hrs

Prerequisites: READING LEVEL 4 AND WRITING LEVEL 4 AND MATH LEVEL 2 and High School biology and chemistry or permission of the Honors Office. Introduces the fundamental concepts underlying biology with a focus on heredity and sexuality. Includes cell biology, inborn errors of metabolism, reproduction and development, immunology and HIV/AIDS, oncogenes and cancer, plus classical, population and molecular genetics. Explores the frontiers of health and medicine including reproductive technologies, biotechnology, gene therapy, prenatal diagnosis, genetic screening and the bioethics of the Human Genome Project. Includes case study analysis and laboratory investigations related to cellular and population genetics and biotechnology. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in BIO 199 or BIO 199H but not in both. (45-45)

BIO 203W General Microbiology 4 Sem Hrs

Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 2; and BIO 111 or BIO 130 with a "B" (3.0) minimum grade; or BIO 140 or BIO 152 or BIO 171, or BIO 241 each with a "C" (2.0) minimum grade. Surveys the microbes associated with infectious diseases, including the bacteria, viruses, fungi, and protozoa's. Emphasizes the health care aspects and the distribution and activities of microbes as related to the following: microbial nutrition and anatomy, growth, disease, epidemiology, infection and immunity. Uses labs that stress aseptic techniques and that develop skills necessary to handle microbes in health care settings, including the characterization of unknown microbes. (45-45)

BIO 219 Stream Ecology: Aquatic Macroinvertebrate Research 2 Sem Hrs

Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 2. Introduces the physical environmental factors that affect organisms inhabiting streams as well as human influences on streams. Emphasizes the energy flow through stream ecosystems along with the lifecycles and interdependencies of stream animals. Includes fieldwork on at least four different kinds of streams. Emphasizes interrelationships of macroinvertebrate communities within specific stream ecosystems. Includes a weekend field trip with the student paying own expenses. Credit may be earned in BIO 119 or BIO 219 but not both. (30-0)

BIO 221 Nature Study 4 Sem Hrs
Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 2; BIO 111 recommended. Designed to introduce students to identification of local flora and fauna. Investigates relationships of these organisms to student's environment. (45-30)

BIO 230HW Physical Anthropology and Archeology - Honors 4 Sem Hrs
Prerequisites: READING LEVEL 4 AND WRITING LEVEL 4 AND MATH LEVEL 2; or permission of the Honors Office. Introduces the origin and evolution of humankind's physical and cultural development. Emphasizes the evidence and theories of human evolution and a survey of Old World and New World archeology. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of SOC 230, SOC 230H, BIO 230, or BIO 230H. (60-0)

BIO 230W Physical Anthropology and Archeology 4 Sem Hrs
Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 2. Introduces the origin and evolution of humankind's physical and cultural development. Emphasizes the evidence and theories of human evolution and a survey of Old World and New World archeology. Credit may be earned in only one of SOC 230, SOC 230H, BIO 230, or BIO 230H, but not both. (60-0)

BIO 240 Human Anatomy 4 Sem Hrs
Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 5; and BIO 171 or permission of instructor. The anatomy of the human body is presented on an integrated regional basis, supplemented by relevant histological, embryological, and functional considerations. The laboratory emphasizes regional dissections of the cat. Designed to meet the needs of biology majors and pre-professional science curricula, including all transfer health-related fields. (45-45)

BIO 241 Physiology 4 Sem Hrs
Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 5; and BIO 171 and BIO 240 or permission of instructor. Requires background in anatomy and chemistry. Studies the functional integration of the major organ systems of animals, with special emphasis on the human body. Emphasizes the ways in which the various systems interact to maintain homeostasis of the individual. Illustrates through laboratory experiments both classical and modern approaches to the physiology of various organ systems. (45-45)

BIO 268 International Studies in Biology 1-4 Sem Hrs
Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 2; Provides a biologic interpretation of selected world regions with emphasis on natural history, flora and fauna, and ecological relationships. Includes class lectures, individual consultation, and international field study. Expenses for the field study are the responsibility of the student. (15-60,0)

BIO 271 Genetics 3 Sem Hrs
Prerequisites: READING LEVEL 3 AND WRITING LEVEL 3 AND CHM 111 AND BIO 171 AND EITHER MTH 208 or 209 all with a minimum grade of C (2.0). Provides a survey of the field of genetics with an emphasis on health applications where appropriate. Applies principles of molecular genetics, karyotypes, Mendelian genetics, linkage genetics and biotechnology to understand genetic diversity in humans and other organisms. (45-0)

BIO 274 Introduction to Biotechnology 2 Sem Hrs
Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2 AND MATH LEVEL 5; and CHM 111 and BIO 171 or permission of instructor. Gives a detailed look at cell and molecular biology with a focus on biotechnology. Explores the following topics: regulation of gene expression and development, recombinant DNA, gene cloning, PCR, DNA sequencing and profiling, gene therapy, protein purification, cell culture, cancer and the use of model organisms. Designed for students interested in careers in biotechnology, biochemistry, medicine or pharmacy. Meets requirements of Ferris State University's Bachelor of Science program in biotechnology. (30-0)

BIO 280 Pathophysiology 4 Sem Hrs
Prerequisites: READING LEVEL 3 AND WRITING LEVEL 3 AND MATH LEVEL 3; and BIO 153 with a C or better; or BIO 241 with a C or better; or permission of the instructor. Provides an overview of abnormal physiological processes leading to human disease. Emphasizes the etiology, pathogenesis, diagnostic findings and clinical manifestations of specified illnesses. Includes general overviews of risk factors, disease incidences and therapeutic managements as they apply to each pathophysiological condition discussed. Covers in this course include alterations in the nervous, endocrine, immune, cardiovascular, respiratory, digestive, urinary systems. (60-0)

BIO 290-299 Special Projects in Biology Sem Hr

Computer Aided Design

CAD 114 Introduction to CAD 3 Sem Hrs
Prerequisite: CST 103 recommended or basic knowledge of the Windows Operating System. Introduces 2D and 3D CAD drawing, including basic drawing and editing commands. Studies CAD systems interface, hardware, a current operating system, file management techniques, creating templates, creating and modifying geometry, dimensions and text styles, block and external reference insertion, attributes and creating tables, model space/paper space layouts, rendering and plotting techniques. Credit may be earned in only one of the following: ARC 114, CAD 114, or SKCA 114. (45-15)

CAD 120 Introduction to CAM 3 Sem Hrs
Prerequisites: DRF 104 or DRF 105 or SKDR 101; and CST 103 or CAD 114; or permission of instructor. Introduces the basics in computer geometry creation including line, arc, curve creation and manipulation. Gives a foundation to build on advanced CAD/CAM techniques. Instructs students on file transfer systems from CAD to CAM with emphasis on proper drawing techniques, including file type-save-transfer. Projects will be drawn, checked and created on appropriate equipment. Shows links between CNC machines on the shop floor and their relationship with the design process. Generates code from created drawings to be run on Computer Numerical Controlled equipment. Credit may be earned in CAD 120 or SKCA 120 but not in both. (30-30)

CAD 214 CAD Techniques 2 Sem Hrs
Prerequisites: CAD 114 or permission of the instructor and knowledge of a windows operating system. Drafting and design experience is a plus. Designed for the user with some previous CAD experience. Training courseware is used to thoroughly investigate the various options available in drawing commands, modification commands and dialog boxes. Practical real-world examples used to practice each functionality. Learning objectives of the lessons and exercises in this course support preparation for a computer aided design certification exam. (30-0)

CAD 226 3D Parametric Solid Modeling 3 Sem Hrs
Prerequisite: CST 103 recommended or basic knowledge of the Windows Operating System. Develops skills in the use of 3D parametric solid modeling software. Converts solid models to 2D multi-view drawings and generates assembly and animation files. Culminates in Rapid Prototyping project and final presentation. (45-0)

CAD 232 Introduction to Rapid Prototyping 2 Sem Hrs
Prerequisite: CAD 226. Develops elements of creative thinking and problem solving used in the design process, including the techniques and methods used to construct prototypes and models. Introduces modern rapid prototyping techniques and provides opportunity to conceive, design and produce a product, using rapid prototyping methods and computer-aid design techniques. (15-30)

CAD 290-299 Special Projects in Computer Aided Drafting

Child Development

CD 109W Introduction to the Educational Paraprofessional 2 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the role of the educational paraprofessional in a classroom setting. Prepares for work with a diverse population while assisting in implementing curriculum, facilitating classroom activities, and working with special needs students. Identifies the skills necessary to work well with a team of teachers, administrators, and other professionals. Requires a service learning project. (30-0)

CD 110W Infant/Toddler Development 4 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the skills needed to interact with infants and toddlers as a teacher in a professional capacity and includes observing and participating with these specialized populations and their teachers. Identifies curriculum methods used to enhance growth in all developmental areas, and skills required to work with parents to foster basic early learning enhancement. Requires volunteering 3 hours per week for a total of 30 contact hours in an approved, public, child development program during the main portion of the day. (45-30)

CD 111W Introduction to Early Childhood Education 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the field of early childhood education for ages birth-8. Provides an overall view of classroom goals, types of programs, teaching techniques and professionalism. Defines Michigan licensing laws for programs. (45-0)

CD 112W Learning Center Activities 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Provides the basic curriculum and organizational skills needed to work in an early childhood program. Identifies, develops and presents developmentally appropriate activities for the early childhood classroom. (45-0)

CD 113W Child Guidance Strategies 4 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces basic skills needed to interact with young children in a positive manner. Identifies instances of growth-producing and/or growth-restricting child behavior and the capability to recognize, interpret and apply a variety of positive guidance techniques. Introduces the preschool and primary classroom, observing and participating with these specialized populations and their teachers. Requires 3 hours a week for a total of 30 hours volunteering in an approved, public, child development program during the main portion of the day. (45-30)

CD 115W Introductory Preschool Practicum 3 Sem Hrs

Prerequisites: CD 111, CD 112, CD 113. Introduces the early childhood classroom, observing and participating with young children and their teachers. Requires approximately nine hours a week volunteering in an approved early childhood program during the main teaching portion of the day, for a total of 90 hours. (27-90)

CD 116W Diversity and Families in Early Childhood Education 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the background needed to work with parents of children in early childhood programs. Explores diversity in social class, economic resources, cultural customs, and traditions. (45-0)

CD 117W Student Teaching Practicum 6 Sem Hrs

Prerequisite: CD 110, 115P and either CD 114 or ED 201. Focuses on teaching developmentally appropriate activities while volunteering in an approved preschool or kindergarten classroom. Application of developmentally appropriate practice and theory during 12 hours per week in an approved student teaching classroom, for a total of 150 contact hours. (37.5-150)

CD 210W Child Care Program Management 3 Sem Hrs

Prerequisites: CD 117 and LWT165. Provides the student with the capstone course for obtaining an Associate of Applied Arts Degree in Child Development. Details all facets of program management in a licensed facility. Introduces the student to developing techniques used in writing a parent program handbook, as well as a staff manual of policies and procedures. Instructor permission required to enroll in this course. (45-0)

CD 290-299 Special Projects in Child Development

Civic Engagement

CEP 101 Civic Engagement Practicum 1 Sem Hr

Develops skills as active citizens in a democratic society through exploration of personal values, analyzing community problems, participation in a civic engagement community project and reflection on the civic engagement experience. (0-15)

Chemistry

CHM 100W World of Chemistry 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 3. Develops student understanding of fundamental concepts and methods used in chemistry. Includes topics of the composition, reactivity, arrangement and classification of matter, bonding, nomenclature, rates of reaction, and intermolecular forces. Investigates the context of food, environment, materials, energy, sustainability, and social implications of chemistry. This course is applicable as a lecture and laboratory credit for non-majors to satisfy a science requirement in certain curricula. Not appropriate for chemistry majors. (45-30)

CHM 101W General Chemistry I 5 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 4. Provides fundamental principles, including atomic theory, periodic properties, states of matter, laws of chemistry combination, nomenclature, and chemical phenomena of interest to daily living. Designed as a preparation to CHM 111 for those students with no previous work in chemistry and to satisfy a science requirement in certain curricula. (75-30)

CHM 105W Technical Chemistry I 5 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 3. Provides basic principles of general chemistry with an emphasis on resource-based and hands-on learning. Includes chemical and physical properties of matter, measurement and chemical calculations, chemical terminology, reactions and processes, and use of industrial and field testing equipment. Integrates computer skills into the course including word processing, spreadsheet, email, and web use. (60-60)

CHM 106W Technical Chemistry II 5 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 3, and completion of CHM 101 or CHM 105 with a minimum grade of C (2.0). Provides inorganic and organic chemistry knowledge and technical skills' foundation essential for employment as a technician in a variety of chemistry-based professions. Includes analytical instrumentation use. (60-60)

CHM 107 Chemistry For Engineering Technology 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6. Develops a foundation in chemistry for engineering technicians and designers so they can make better informed decisions. Builds connections of understanding between engineering material selection, design, and manufacturing processes. Uses fundamental principles including atomic theory, structure of metals and polymers, periodic properties, states of matter, gas laws, nomenclature, and common chemical reactions to make connections. (45-30)

CHM 111 General and Inorganic Chemistry I 5 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 5 and either high school chemistry or CHM 101 with a minimum grade of C (2.0). Emphasizes an in-depth study of the theories and principles of atomic structure bonding, stoichiometry, states of matters, and properties of solutions. Required for students who intend to enroll for more than one year of chemistry. Meets the needs of chemistry majors. Credit may be earned in CHM 111 or CHM 111H but not both. (60-45)

CHM 111H General and Inorganic Chemistry I - Honors 5 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 4 and MATH LEVEL 5, and CHM 101 with a minimum grade of C (2.0) or high school chemistry or permission of the Honors Office. Emphasizes an in-depth study of the theories and principles of atomic structure bonding, stoichiometry, states of matters, and properties of solutions. Required for students who intend to enroll for more than one year of chemistry. Meets the needs of chemistry majors. Practices intellectual curiosity and applies it in independent ways to deepen understanding of course material. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in either CHM 111 or CHM 111H, but not in both. (60-45)

CHM 112 General and Inorganic Chemistry II 5 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, and CHM 111 with a minimum grade of C (2.0). Studies chemical equilibria in water, including ionization solubility, complex ion, acid-base phenomena, and oxidation-reducing equilibria. Discusses the principles of electrochemistry, chemical thermodynamics, chemical kinetics and special topics such as the descriptive study of metals and non-metals. Meets the needs of chemistry majors. Credit may be earned in CHM 112 or CHM 112H but not in both. (60-45)

CHM 112H General and Inorganic Chemistry II - Honors 5 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 4 and MATH LEVEL 6, and completion of CHM 111 with a minimum grade of C (2.0), or permission of the Honors Office. Continuation of CHM 111. Studies chemical equilibria in water, including ionization solubility, complex ion, acid-base phenomena, and oxidation-reducing equilibria. Discusses the principles of electrochemistry, chemical thermodynamics, chemical kinetics and special topics such as the descriptive study of metals and non-metals. Meets the needs of chemistry majors. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in CHM 112 or CHM 112H but not both. (60-45)

CHM 210 Organic Chemistry I 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 5, and completion of CHM 111 or CHM 112 with a grade of "C" or better. Provides the basic principles of organic chemistry, including functional groups, nomenclature, mechanisms, reaction types and various reagents. Meets the needs of students in the medical and health fields, engineering fields, and science majors. (60-0)

CHM 210LW Organic Chemistry I Laboratory 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 5, and completion of or concurrent enrollment in CHM 210. Provides the basic principles of organic laboratory techniques. Includes note keeping, filtrations, recrystallizations, extractions, distillation methods, spectroscopic methods, chromatographic methods, chemical searches, and report writing. Recommended to be taken concurrently with CHM 210. (0-60)

CHM 220 Organic Chemistry II 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 5, and completion of CHM 210 with a minimum grade of C (2.0). Provides a continuation of CHM 210 with reactions, mechanisms and nomenclature of carbonyl groups, carbohydrates, lipids, proteins and nucleotides. Includes special topics with applications in the medical, pharmaceutical and industrial fields. Meets the needs of students in medical and health fields, engineering fields, and science majors. (60-0)

CHM 220LW Organic Chemistry II Laboratory 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 5, and completion of CHM 210LW with a minimum grade of C (2.0). Provides a continuation of CHM 210LW, applying the basic principles of synthesis and analysis to various challenging reactions, using established techniques. Recommended to be taken concurrently with CHM 220. (0-60)

CHM 221 Organic Biochemistry 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 5, and (BIO 171 or CHM 210). Addresses the major human metabolic pathways from an enzymatic perspective. Relies heavily on the major classes of organic compounds and the interrelationships of biologically active compounds. Designed for students interested in careers in health-related fields, biochemistry, medicine or pharmacy. (45-0)

CHM 222LW Organic Biochemistry Laboratory 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 5, and (BIO 171 or CHM 210) and completion of or concurrent enrollment in CHM 221. Provides a variety of perspectives using laboratory experiments to supplement and enhance the student's background in organic and biochemistry. Includes extractions, syntheses, dilutions, analyses, and enzyme kinetics. Designed for students interested in careers in health-related fields, biochemistry, medicine or pharmacy. (0-45)

CHM 230 Chemical Analysis/Instrumentation 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, and either completion of CHM 106, or completion of CHM 112 and CHM 210 all with a grade of "C" or better. CHM 210 and CHM 230 may be taken concurrently with permission of the instructor. Presents the theory and practice of basic chemical preparation and analysis as performed in research and/or industrial settings. Emphasizes safety, detailed and accurate record keeping, data handling, and report writing. Benefits all science majors in Biology, Chemistry, Engineering, and other Applied Science Curricula. (45-45)

CHM 231 Troubleshooting for Analytical Instrumentation 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 5, and completion of or concurrent enrollment in CHM 210, CHM 221, or CHM 230. Provides an overview of techniques and documentation required for troubleshooting analytical instrumentation in an industrial setting. Includes systematic approach to diagnosis of instrument failures as well as hands-on maintenance and repair operations. Beneficial to all science and technology majors. (15-0)

Criminal Justice

CJ 101 Police Recruit Training 6 Sem Hrs

Prerequisite: Must be currently employed full-or part-time by a law enforcement agency, or have completed an Associate Degree upon entry, or will receive an Associate Degree upon completion of the Basic Police Training Academy. OAT 153, LW 280, and LWT 175 must be taken concurrently. Provides the basic training necessary to assume the duties of a police officer in preparation for MCOLES (Michigan Commission on Law Enforcement Standards) state certification. Includes constitutional law, criminal law, laws of arrest, search and seizure, investigative techniques, first aid, firearms, motor vehicle laws, defensive tactics, and patrol techniques. Contact the Delta Police Academy for information concerning admission requirements, enrollment, and current course fees. To obtain an Associate Degree in Criminal Justice, a student must earn a grade of C (2.0) or better in this course. (605-0)

CJ 102 Jail Officer Academy 4 Sem Hrs

Prerequisite: Must be qualified to be a Local Corrections Officer according to the minimum hiring standards of the Michigan Sheriff's Coordinating and Training Council (MSCTC). Must have also successfully passed the MSCTC LCOPAT test as well as the EMPCO Local Corrections Officer written examination prior to entry into the Jail Officers Academy. LWA 279 and LWT 170 must be taken concurrently. Provides the basic training necessary to assume the duties of corrections deputy or local detention officer in accordance with Michigan Sheriff's Coordinating and Training Council (MSCTC) standards and certification. Includes Booking and Intake Screening, Correctional Law, Cultural Diversity, Custody and Security, Stress Management, Ethics in Corrections, Prisoner Behavior, Workplace Harassment, Fire Safety, Interpersonal Communications, Report Writing, and Suicide Awareness. Contact the Delta Police Academy for information concerning admission requirements, enrollment, and current course fees. (112-0)

CJ 110W Introduction to Criminal Justice 3 Sem Hrs

Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Introduces and provides orientation to the field of law enforcement and criminal justice. Explores major areas including: the philosophical and historical background of the field; types of courts and agencies in the field and their responsibilities; administrative and technical problems in the field and an understanding of the Bill of Rights Amendments to the Constitution. (45-0)

CJ 111W Police Administration 3 Sem Hrs

Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Analyzes the functional divisions of the modern police department. Studies management operations, coordination of activities, communications, recruiting, training, public relations, and looks at the future of law enforcement. (45-0)

CJ 112W Police Operations 3 Sem Hrs

Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Studies patrol as a basic police function, including both the theoretical and functional aspects. Covers the responsibilities of, purpose, methods, types and means of police patrol. Exams patrol strength layout, beats, technological advancements affecting the patrol officer. (45-0)

CJ 130W Introduction to Corrections 3 Sem Hrs

Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Provides an understanding of the agencies and institutions that have legal authority over the custody and supervision of offenders. Discusses major areas including the history and development of corrections, community based corrections, local, state and federal institutions, and institutional administration. Explores correctional treatment of female, male, and juvenile offenders. Covers the role of corrections in the total system of criminal justice. (45-0)

CJ 132W Client Relations in Corrections 3 Sem Hrs

Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Develops an awareness of the effects of culture and discrimination on the attitude formation of individuals, to assist in identifying various professional responses to human behavior. (45-0)

CJ 135W Correctional Institutions and Facilities 3 Sem Hrs

Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Provides an overview of correctional institutions and facilities. Covers topics including the purpose of prisons and correctional institutions, treatment and rehabilitating programs, management and organization of correctional institutions, custodial care, safety and security, and future concerns. (45-0)

CJ 182W Introduction to Security 3 Sem Hrs

Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Introduces the field of security and orients student to career options. Explores origins and development of security, proprietary security, risk analysis, fire protection, safety, internal theft control, insurance cargo security, computer security, institutional security, and the future of security. (45-0)

CJ 187W Current Issues in Security 3 Sem Hrs

Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Surveys current issues in security: terrorism, espionage, substance abuse, employee theft, computer vulnerabilities, and protection of information. (45-0)

CJ 210W Introduction to Criminal Investigation 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces criminal investigation procedures: theory of an investigation, conduct at crime scenes, collection and preservation of physical evidence, methods used in police science laboratory, finger prints, ballistics, documents, serology, photography, and related forensic sciences. (45-0)

CJ 211W Private Security and Investigative Methods 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces private security and investigative methods, including public record searching, surveillance, background investigations, interviewing techniques, fair credit reporting act, computer based investigations and video evidence. (45-0)

CJ 215W Introduction to Homeland Security 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Explains the basic concepts of homeland security. Examines domestic and foreign terrorist violence aimed at achieving radical change in society. Explores governmental reaction to homeland security needs and threats against interests of the United States. (45-0)

CJ 220W Crime Laboratory Techniques 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and CJ 210 with a "C" or better. Introduces scientific criminal investigation and criminalistics: proper handling and transmittal of evidence to the crime laboratory, laboratory aids that are available, and understanding of the probabilities related to examination of physical evidence. (45-15)

CJ 233W Client Growth and Development 3 Sem Hrs

Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Explores the various factors involved in the development and growth of the criminal. Discusses the biological, environmental, and psychological influences. Reviews specific problems such as sexual, substance abuse and medical disorders. Explores intervention strategies. (45-0)

CJ 237W Jails & Local Detention 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and CJ 110 or CJ 130 with a "C" or better. Explains the operations of jails and local detention facilities and their unique role in the criminal justice system. Covers Michigan jail and lockup operations, as well as their organization, management, and emerging issues confronting American jails. Reviews differences in jails and prisons regarding operations and differing clientele. (45-0)

CJ 238W Legal Issues in Corrections 3 Sem Hrs
Prerequisite: READING LEVEL 1 or WRITING LEVEL 1. Studies the primary legal issues correctional personnel will be entrusted to enforce and safeguard. Covers an overview of U.S. Constitutional law, the court process from arrest through trial, the structure and function of the S.S. and state courts, and prisoner rights. (45-0)

CJ 250 The Juvenile Offender 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Studies theories of causation as applied to juvenile delinquency. Examines the work of youth agencies. Explains Michigan Juvenile Law and constitutional safeguards for juveniles. Reviews new development in the prevention of juvenile crime. (45-0)

CJ 270W Evidence and Criminal Procedure 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and any one course from the Criminal Justice Discipline or any POL 103, POL 104, or POL 212 course with a "C" or better or permission of the instructor. Studies the rules of evidence as it affects the criminal justice process. Includes an overview of criminal procedure as it pertains to the rules of arrest, search, and seizure, which regulate law enforcement, and protects citizen's rights of privacy and presumed innocence. (45-0)

CJ 271W Criminal Law 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and any one course from the Criminal Justice Discipline or any POL 103, POL 104, or POL 212 course with a "C" or better or permission of the instructor. Examines elements and proof in crime of frequent concerns in law enforcement with reference to principal rules of criminal liability. Considers importance of criminal law at the enforcement level, from crime prevention to courtroom appearance. (45-0)

CJ 275W Probation and Parole 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and CJ 130 with a "C" or better. Examines the process of probation and parole. Emphasizes management and supervision of individuals involved in the probation and parole process including interviewing, counseling techniques, and preparing court reports such as progress reports and pre-sentence investigations. (45-0)

CJ 280W Internship in Criminal Justice 3 Sem Hrs
Prerequisite: Minimum 15 credits Criminal Justice courses and permission of faculty. Field placement in a criminal justice setting (police department, court, juvenile center, etc.). An attempt will be made to find field education placements compatible with students' interests and agency needs. (10-160)

CJ 290-299 Special Projects in Criminal Justice 0-4 Sem Hrs

Certified Nursing Assistant

CNA 100LW Certified Nursing Assistant Lab 1.3 Sem Hrs
Prerequisites: READING LEVEL 4, WRITING LEVEL 2, and MATH LEVEL 2. Corequisite: CNA 100W. A Criminal Background Check must be completed and approved before entering the clinical agency. Introduces clinical skills and experiences related to basic patient care and activities of daily living. Utilizes these skills in a variety of health care settings, such as long-term, home health, and acute care facilities. Successful completion of the course with a grade of "C" or better entitles the student for eligibility to take a competency evaluation exam to attain state certification as a Certified Nursing Assistant. A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Students are not eligible for a course refund, beyond the college defined refund period, if a determination has been made by the clinical agency that prevents the student from entering the facility for any reason. (0-60)

CNA 100W Certified Nursing Assistant Training 3.7 Sem Hrs

Prerequisites: READING LEVEL 4, WRITING LEVEL 2, and MATH LEVEL 2. Corequisite: CNA 100LW. A Criminal Background Check must be completed and approved before entering the clinical agency. Introduces theory related to basic patient care and activities of daily living. Successful completion of the course with a grade of "C" or better entitles the student for eligibility to take a competency evaluation exam to attain state certification as a Certified Nursing Assistant. A final grade of "F" will be assigned in both theory and lab if either course is not successfully completed. Students are not eligible for a course refund, beyond the college defined refund period, if a determination has been made by the clinical agency that prevents the student from entering the facility for any reason. (56-0)

CNA 290-299 Special Projects in Certified Nursing Assistant N/A Sem Hrs

Computer Numerical Control

CNC 162 Computer Numerical Control Theory 4 Sem Hrs
Prerequisites: SKTR 181 or MS 181, and SKMA 103 or MTH 103 or MT 110, or Instructor permission. Uses various methods, such as a text editor, machine control unit, and CAD/CAM (MasterCam) to produce alpha-numeric code (G-Code) which will run CNC machinery. Uses blueprints to problem solve and program both point-to-point and complex contours on machining centers and turning centers. Discusses machines with 2, 3, 4, and 5 axis controls. Emphasizes common formats of programming. Discusses machine tool controllers including HAAS, Funac, and Okuma. Includes hands-on activities. Credit may be earned in either CNC 162 or SKCN 162 but not in both. (40-20)

CNC 216 CNC with Machining Applications 4 Sem Hrs
Prerequisites: CAD 120 or SKCA 120, MS 181 or SKTR 181, CNC 162 or SKCN 162, MS 181W or SKTR 181. Emphasizes the programming methodology for producing quality parts using the CNC machines. Discusses conversational programming language with secondary emphasis on tooling setups, part setups, and machining. Utilizes horizontal and vertical machining center for program testing. Credit may be earned in SKCN 216 or CNC 216 but not both. (0-60)

CNC 225 Mastercam 4 Sem Hrs
Prerequisites: CAD 120 or SKCA 120, and CNC 162 or SKCN 162 or instructor permission. Teaches the advanced concepts of CNC programming for lathe work, mill 3 and 4 axis work, and/or other machinery, shop floor programming, and the principles of CNC operations. Emphasizes various machining operations, accompanied by demonstrations, student programming, and hands-on setup and machine operation. Emphasizes the creation of error free part programs using the MASTERCAM programming language, including part geometry, tool path, and debugging with secondary emphasis on the downloading of a program to the turning center, mill, machining center/system, or wire EDM. Credit may be earned in either SKCN 225 or CNC 225 but not in both. (15-45)

CNC 260 CNC Multi Axis 4 Sem Hrs
Prerequisites: CNC 225 and CNC 216 or instructor permission. Introduces and demonstrates concepts for multi axes machining techniques beginning with 3 plus 2 axis utilizing planes then advancing to true 5 axis machining. Imports engineering drawings and electronic CAD files into CAM software to perfect geometry and tool path routines, then outputs G-code specific to the multi-axes machine. Focuses on complex applications and the true efficiency of multi-axes machining through individual and/or team assignments. Credit may be earned in CNC 260 or SKCN 260 but not both. (30-30)

CNC 285W Computer Numerical Control Capstone 4 Sem Hrs
Prerequisites: CNC 216, CNC 225, AND CNC 260, or permission of instructor. Demonstrates application-based activities that tie a majority of previous manufacturing learning together. Incorporates skills learned in drafting, CAD, manual and CNC machine tools, and CAM to complete the capstone project. Applies critical thinking and spatial analysis abilities in the processing of this project. Applies the fundamentals of tool design and tool making, fixture building, and geometric dimensioning and tolerancing (GD&T). Credit may be earned in CNC 285W or SKCN 285W but not in both. (30-60)

CNC 290-299 Special Projects in Computer Numerical Control

Communication

COM 112CW Fundamentals of Oral Communication 3 Sem Hrs
Offers training in the fundamental processes of oral expression, with an emphasis on speaking and listening as the coordination of perception and expression. Practices the basic principles, components, and skills for the development and delivery of presentations in specific communication situations. Intended to only be taken in a learning community combination. (45-0)

COM 112HW Fundamentals of Oral Communication - Honors 3 Sem Hrs
Prerequisites: READING LEVEL 4 and WRITING LEVEL 4 or permission from the Honors Office. Offers skill development in the fundamental processes of public speaking. Practices the basic principles, components, and skills for the development and delivery of presentations in specific communication situations. (45-0)

COM 112W Fundamentals of Oral Communication 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Offers skill development in the fundamental processes of public speaking. Practices the basic principles, components, and skills for the development and delivery of presentations in specific communication situations. (45-0)

COM 114HW Interpersonal Communication - Honors 3 Sem Hrs
Prerequisites: READING LEVEL 4 and WRITING LEVEL 4 or permission from the Honors Office. Introduces communication theories. Applies communication principles involved in initiating, developing, and maintaining a relationship. Increases competency as communicators in social settings. Applies various concepts of communication behavior. (45-0)

COM 114W Interpersonal Communication 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Introduces communication theories. Applies communication principles involved in initiating, developing, and maintaining a relationship. Increases competency as communicators in social settings. Applies various concepts of communication behavior. (45-0)

COM 202W Oral Communication for Managers 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Provides theoretical and practical understanding of organizational communication. Develops skill in interpersonal and small group communication. Examines multiple aspects of the career search process including interviewing. Offers training in oral presentations. Emphasizes practical skills within an organization. (45-0)

COM 212W Listening 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Focuses on the theory, behavior, and skills of listening. Includes discussion of the key components of listening such as hearing, understanding, remembering, interpreting, evaluating, and responding. (45-0)

COM 214W Small Group Communication 3 Sem Hrs
Prerequisite: COM 114W, READING LEVEL 3 and WRITING LEVEL 3. Focuses on small group communication theories, strategies, and skills for successful group participation. Increases student competency as effective team members and leaders. (45-0)

COM 215W Introduction to Theatre 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Offers insight into all the various aspects of theatrical production. Observes and critiques dramatic productions whether on stage, film, or the T.V. screen. Analyzes plays and experiences in acting, directing, scenery, and lighting. (45-0)

COM 216W Theatre History 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 2. Introduces the student to the various historical areas of the theatre, from the ancient Greeks to the present. Emphasizes the development of the physical theatre, representative playwrights, and the development of actor and the director. (45-0)

COM 222 Introduction to Acting 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Introduces the fundamentals of stage terminology, stage movement, use of voice, and believable character creation for an audience in both improvisational and written scenes. Emphasizes preparation and presentation of scenes before a classroom audience. (45-0)

COM 224W Nonverbal Communication 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Focuses on nonverbal communication as it relates to interpersonal and professional behavior. Analyzes kinesics, facial expressions, eye contact, body movement and posture, physical characteristics, haptics, chronemics, proxemics, artifacts, paralanguage and environment. Discusses prevalent theories and current research underlying nonverbal behavior. Applies effective nonverbal communication in various contexts, including small groups. (45-0)

COM 235W Principles of Persuasion 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Introduces the study and practice of persuasion focusing on the dual roles as producers and consumers of persuasive messages. Examines persuasion in a variety of contexts using both the rhetorical and behavioral science traditions; applies theory and research to practical situations and develops strategies for constructing effective and ethical persuasive messages. (45-0)

COM 236W Advanced Oral Communication 3 Sem Hrs
Prerequisite: READING LEVEL 3 AND WRITING LEVEL 3 AND "C" or better in COM 112W or COM 202W, or permission of instructor. Develops an advanced understanding of theories and strategies in the delivery of oral presentations. Advanced speaking skills are developed from an historical and contemporary rhetorical context. Emphasis is on analyzing and practicing speech discourse conventions, along with advanced information literacy skills as a key to effective delivery of speeches. (45-0)

COM 244W Family Communication 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Offers an understanding of interpersonal communication in the context of family systems. Studies family communication through the lens of family systems theory, rules, and interaction theory. Applies and operationalizes theories through various assignments related to their family of origin, existing family, and family configurations in other cultures. (45-0)

COM 245W Intercultural Communication 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Provides an analysis of issues associated with communicating with an emphasis on how communication is influenced by culture and how culture is influenced by communication. Utilizes concepts drawn from sociology, psychology, anthropology, and communication. Applies theories and research related to intercultural communication in order to increase understanding of the relationship between culture and communication and to develop skills to communicate effectively with people of other cultural groups. (45-0)

COM 246W Social Media and Communication 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Identifies the impact of social media on interpersonal relationships. Explores communication through different types of social media. Applies communication theory to analysis of current social media outlets. (45-0)

COM 290-299 Special Projects in Communication Sem Hrs

Chemical Process Industries

CPI 110 Introduction To Chemical Process Industries 2 Sem Hrs
Concurrent enrollment in CPI 120 recommended. Provides overview of Chemical Process Industries and Chemical Technology with focus on the role of the process operator and the chemical technician. Introduces concepts of safety, regulation, laws affecting the job and the industry, and quality control. Includes study skills and attitudes necessary for study of science/technology as well as means of continuing professional and personal growth. Credit may be earned in CPI 110 or CT 100 but not both. (30-0)

CPI 115 Chemical Plant Science Fundamentals 2 Sem Hrs
Prerequisite: Instructor permission required to register. Requires that the student has already earned a technical associate, bachelor or greater degree; military experience; over 8000 hours industrial experience; or a journeyman's card. Reviews the fundamental scientific principles of physics and chemistry. (30-0)

CPI 120 Introduction To Process Operations 2 Sem Hrs
Prerequisite: MATH LEVEL 5. Concurrent enrollment in CPI 110 recommended. Provides an overview of process operations including analysis of process flow sheets. Details description and analysis of operations as they involve reactors, distillation columns, heat exchangers, and other types of operations in the typical chemical plant. (30-0)

CPI 210 Basic Chemical and Unit Operations 4 Sem Hrs
Prerequisite: Completion of PHY 101, PHY 111, or PHY 211 with a grade of "C" or better (A high school Physics course completed with a "C" or better within the last three years may also qualify.) and CPI 120 with a grade of "C" or better. Provides understanding of basic principles of process technology along with an introduction to the use and operations of standard process equipment used worldwide by process technicians. Includes principles of energy and heat, pressure, fluid flow, heat transfer as well as topics concerning quality control and unit operations. Provides operational experiences with valves, pumps, compressors, distillation towers, and other process equipment and instrumentation. (45-45)

CPI 220 Process Measurement 3 Sem Hrs
Prerequisite: CPI 210 with a grade of "C" or better. Provides an understanding of process measurement methods and the application of process instrumentation. Includes discussion of pressure measurements, temperature measurement, flow measurement, product level measurement, and analytical measurement. (45-0)

CPI 230 Process Control 3 Sem Hrs
Prerequisite: CPI 220 with a grade of "C" or better. Provides an introduction to basic process control concepts. Discusses controllers/control valves, instrument and process control, statistical process control (SPC), run and flow charts, quality systems, team concepts, and environmental health and safety issues. (45-0)

CPI 240W Process Troubleshooting 3 Sem Hrs
Prerequisite: CPI 250 with a grade of "C" or better. Provides problem solving skills used to maintain and monitor process equipment employing cause and effect analyses, case studies, analytical techniques, and laboratory simulations. Involves troubleshooting unit problems, maintaining, monitoring, and inspecting equipment, placing and/or removing equipment in service, and working with others who operate and maintain processes (maintenance technicians; laboratory technicians; and engineering, administrative and construction personnel). (30-30)

CPI 245 Environmental Health, & Safety in Chemical Process Industry 3 Sem Hrs
Prerequisite: Instructor permission required to register. Requires that the student has already earned a technical associate, bachelor or greater degree; military experience; over 8000 hours industrial experience; or a journeyman's card. Reviews the environmental health and safety procedures and standards in the chemical process industry. (30-15)

CPI 250W Advanced Chemical Operations 4 Sem Hrs
Prerequisites: CPI 230 with a grade of "C" or better. Provides hands-on simulations that demonstrate mechanical and measurement principles involved in the operation and control of chemical processes. Includes student/team operation of a process simulator under normal operating conditions as well as the operations of tanks, pumps, valves, heat transfer equipment, steam traps, filters, and process instrumentation. (45-30)

CPI 260W Process Operations Management 4 Sem Hrs
Prerequisite: CPI 240 and CPI 250 with a grade of "C" or better. Provides capstone experience for chemical process operation students/technicians. Focuses on demonstrated student skills in the use of control charts; P&ID's; verification of systems, units, and equipment; and development of critical values for SPC. Provides opportunity for students to present plans (including PSM and environmental management systems) and procedures for start-up and run, shut down operations, and present results of pilot project run. Emphasizes the value and function of the team in process operations as well as quality control, and environmental health and safety issues (45-45)

CPI 270 Advanced Process Operations Lab 2 Sem Hrs
Prerequisite: CPI 230, CPI 240, CPI 250 with a minimum grade of "C" or better, Concurrent enrollment with CPI 260 is recommended. Provides practical application of the skills required of an entry level chemical operator, including following Standard Operating Procedures, new process commissioning, equipment troubleshooting, preventative maintenance, Lock Out / Tag Out and Environmental, Health and Safety Compliance. (0-30)

CPI 290-299 Special Projects in Chemical Process Industries Courses 1-4 Sem Hrs

Computer Science & Info Tech

CST 090 Beginning Computer Concepts 3 Sem Hrs
Provides the terminology needed to become familiar with a basic computer, the Windows operating system, the Internet, and office applications. Provides a hands-on setting focusing on basic computer techniques. Designed for those who lack familiarity with computer technology. This course does not count toward graduation. (45-0)

CST 103 Windows Foundations 1 Sem Hr
Provides a basic introduction to the Microsoft Windows Operating System. Includes the creation of folders and use and review of the basic concepts of storage on floppy and hard disk. Introduces the basic features of Windows including menus, icons, dialog boxes, and the title and menu bars. Emphasizes the use of multi tasking. (15-0)

CST 104 Microsoft Word Foundations 1 Sem Hr
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3 and OAT 170 with a "C" (2.0) grade minimum or equivalent touch typing and computer background. Introduces Microsoft Word software. Teaches how to create, format, save, retrieve, edit, and print documents. (15-0)

CST 105 Outlook 1 Sem Hr
Prerequisite: OAT 171 or CST 133W each with a grade of "C" or higher. Introduces Microsoft Outlook and its e-mail, calendar, contacts, and tasks/notes components. Teaches how to send and receive e-mail, manage calendar activities, maintain contacts, and create tasks and notes. Also includes customization and integration of Outlook components. (15-0)

CST 106 Internet Foundations 1 Sem Hr
Develops skills to access and use the Internet emphasizing easy information retrieval. Introduces essential Internet areas such as E-Mail and the use of Graphical Web Browsers. Credit may be earned in only one of the following: CST 106, CPS 160, CIS 160 or CIS 161. (15-0)

CST 107 Microsoft Publisher 1 Sem Hr
Prerequisite: CST 104 or OAT 171 or CST 134 each with a "C" grade or higher. Introduces the basics of using Microsoft Publisher to design and create publications for personal use and professional purposes. Teaches principles of publication design and layout, including formatting text, using graphic manipulation tools, applying color schemes and styles, and working with templates. (15-0)

CST 110 Web Content Development 1 Sem Hr
Prerequisite: READING LEVEL 2 and WRITING LEVEL 2. Develops skills to create and maintain a basic Web content using a content management system. Introduces content management systems, content formatting, theme and appearance customization, and plugins. Examines best practices for attribution, security, accessibility, usability, and developing content for target audiences. (15-0)

CST 115W e-Commerce Concepts 3 Sem Hrs
Provides an explanation of traditional commerce and e-commerce, which is doing business over the web. Describes an overview of the economic structures in which businesses operate and describe how electronic commerce fits into those structures. Includes a review of different Web-based tools, the software necessary, security concerns and strategies for Marketing, Sales and Promotion on the Web. (45-0)

CST 120 PC Operating System Command Line Interface (DOS) 1 Sem Hr
Provides a basic introduction to Command Line Operating Systems Interface using the Disk Operating System (DOS) as an example. Includes basic commands and emphasizes commands for managing files and directories. Introduces basic features of managing and backing up a hard disk and surveys troubleshooting tools. Includes the creation and use of batch files. (15-0)

CST 123 Windows Operating System 1 Sem Hr
Prerequisite: CST 103. Provides a continuing orientation to PC Operating Systems. Emphasizes the Windows Operating System features needed in the daily operation of microcomputers including customizing and managing the desktop, maintaining the system and backing up data. Includes the customizing of windows for increased productivity, creation of graphics and the concepts of Object Linking and Embedding. (15-0)

CST 126 Unix/Linux Operating System 2 Sem Hrs
Provides a basic orientation to the Unix and Linux Operating Systems. Emphasizes how to create, display, copy and print files. Includes how to work with directories, and how to connect to the Internet. Credit may be earned in CST 126 or CIS 109, but not both (30-0)

CST 128 PC Hardware Concepts and Troubleshooting 4 Sem Hrs
Uses hands-on experiences to examine the internal hardware components of computers with an emphasis on troubleshooting and repair. Discusses interaction of operating system and hardware in running application programs. Explores upgrading and optimizing computers to solve typical hardware and software problems. (60-0)

CST 129 Mac OS Troubleshooting 2 Sem Hrs
Prepares help desk specialists, technical coordinators, service technicians, system administrators, and others who support Mac users to knowledgeably address customer concerns and questions. Studies in-depth technical information and procedures to install, configure, maintain, and diagnose Mac computers running OS X. (30-0)

CST 133W Computer Concepts & Competencies 4 Sem Hrs
Prerequisite: READING LEVEL 3. Prepares for the on-going ethical, environmental, societal and global issues of technology. Presents computer concepts including input and output of data and how information is processed, stored, and shared. Examines the purpose of networks, their technologies, scopes, and connectivity issues. Gives major consideration to Internet technology and access emphasizing research, education, communication, e-commerce, and security. Provides an introduction to software engineering and the analysis and design of computer systems. Discusses computer platforms, architectures, and system software. Develops PC competencies and skills including file management, word processing, spreadsheets, presentation graphics, database, Internet, Web pages, and graphics. Credit may be earned in CST 133 or CIS 133, but not both. (60-0)

CST 134 Micro Computers in Business Using MS Office 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Surveys small computer systems used for personal, business, and industrial applications including hardware, software, and operating systems. Uses MS Office for word processing, spreadsheets, and database software as well as the evaluation and selection of systems. (45-0)

CST 135 Help Desk Fundamentals 1 Sem Hr
Explores computer support processes and procedures that are used in business. Examines methods of communicating with users. Describes how service agreements are established with users. Defines problem solving procedures and methods to track and measure a problem until it is solved. (15-0)

CST 147 Electronic Media Communication 2 Sem Hrs
Prerequisite: READING LEVEL 2 AND WRITING LEVEL 2. Develops beginning/intermediate best practices for business and education presentations and electronic media. Focuses on developing attractive, professional, effective, and well-timed visuals for different business settings. Students will use cloud-based technologies to create and share presentation media and supplemental materials. (30-0)

CST 150W Information Security Policies, Procedures, and Fundamentals 3 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Covers terminology; security systems development and implementation; and legal, ethical, and professional issues. Provides knowledge and experience to develop and maintain security policies and procedures. (30-15)

CST 151 Spreadsheet Fundamentals 2 Sem Hrs
Prerequisite: MATH LEVEL 2 and OAT 171 with a "C" or higher. Surveys Microsoft Excel including evaluation of spreadsheets, database applications, graphics, report formatting, and macros as applied to small business and industrial settings. Credit may be earned in either CST 151 or CST 155, but not both. (30-0)

CST 152 Implementing Network Security 3 Sem Hrs
Prerequisite: CST 150. Provides knowledge and the practical experience necessary to evaluate, implement, and manage secure information transferred over computer networks. Includes network security, intrusion detection, types of attacks, methods of attacks, security devices, basics of cryptography, and organizational security elements. (15-30)

CST 153 Implementing Firewalls 3 Sem Hrs
Prerequisite: Instructor approval. Includes planning, designing, installing, configuring, and managing Firewalls and Virtual Private Networks (VPNs) that will allow key services while maintaining security. Includes protecting the internal IP services, configuring a firewall for remote access. (15-30)

CST 154W Incident Response and Disaster Recovery 3 Sem Hrs

Prerequisites: CST 152 or CST 266. Includes implementing a plan to detect intruders, determine the damage caused, and discuss what precautions to use to avoid disasters and to recover from them when they do occur. (15-30)

CST 155 Microsoft EXCEL 3 Sem Hrs

Prerequisite: MATH LEVEL 3 and READING LEVEL 2 and WRITING LEVEL 2. Presents EXCEL features using personal and business applications. Emphasizes features and techniques to develop solutions to spreadsheet problems. Includes evaluation of spreadsheets, data base, report formatting, and macros. Compares EXCEL with other electronic spreadsheets. Credit may be earned in CST 151 or CST 155 but not both. (45-0)

CST 156 Implementing Wireless Security 3 Sem Hrs

Prerequisites: CST 153 or CST 154. Covers foundations of wireless security, wireless LAN vulnerabilities, passive wireless discovery, active wireless attacks, wireless security models, and enterprise wireless hardware security. Includes designing a secure wireless network, securing wireless authentication and transmission, managing the wireless network, writing wireless security policy, and managing operational support and wireless convergence. (15-30)

CST 158 Network Intrusion Security Testing 3 Sem Hrs

Prerequisites: CST 153 and CST 154. Serves as a capstone for the Information Assurance track. Introduces security testing to protect networks and computers by using various tools to attempt entry into a network or computer. (15-30)

CST 159 Database Operations 2 Sem Hrs

Prerequisites: CST 133 or CST 134. Covers the concepts of relational databases and the powerful SQL programming language. Provides the essential SQL skills that allow database operators to write queries against single and multiple tables, manipulate data in tables, and create database objects. Explains how to use single row functions to customize output, use conversion functions and conditional expressions and use group functions to report aggregated data. (30-0)

CST 160 Networking Essentials 3 Sem Hrs

Prerequisite: CST 133W. May be taken concurrently with CST 133W with instructor permission. Explores all aspects of networking technologies, media, topologies, devices, management, tools and security. (30-15)

CST 161 Introduction to Networking 3 Sem Hrs

Prerequisite: CST 133W. May be taken concurrently with CST 133W with instructor permission. Introduces the architecture, structure, functions, components, and models of the Internet and computer networks. Introduces the principles of IP addressing and fundamentals of Ethernet concepts, media, and operations to provide a foundation for the curriculum. Builds simple LANs, performs basic configurations for routers and switches, and implements IP addressing schemes. (15-30)

CST 162 Introduction to Novell Network Administration 2 Sem Hrs

Prerequisite: CST 161. Introduces Novell NetWare. Covers installing NetWare, adding and deleting users, working with Novell Directory Services, setting up network printers, and maintaining security. (30-0)

CST 163 Introduction to Windows Network Administration 2 Sem Hrs

Prerequisite: CST 161. Introduces Microsoft Windows Networking. Covers installing Microsoft Windows, adding and deleting users, working with Active Directory, setting up network printers, and maintaining security. (30-0)

CST 164 Routing and Switching Essentials 3 Sem Hrs

Prerequisite: CST 161. Configures a router and a switch for basic functionality. Configures and troubleshoots routers and switches and resolves common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. (15-30)

CST 165 Linux Networking I 3 Sem Hrs

Prerequisite: CST 126 and CST 161. Introduces Linux as a network operating system. Covers installing Linux, configuring a simple file server, and administering basic network administration tasks with command-line and graphical user interface tools. (45-0)

CST 171 Visual BASIC Programming I 2 Sem Hrs

Prerequisite: CST 173 (or CST 170) with a grade of "C" or better. Introduces Visual Basic as a first class for Micro Computer programmers. Uses BASIC commands in a Windows environment. Emphasizes implementation of objects and event driven code. Presents screen design and Microsoft Visual Basic controls. Includes structured programming principles including internal and external program documentation; sequence, selection, and iteration constructs; and modular programming. (30-0)

CST 173 Introduction to Programming 2 Sem Hrs

Prerequisite: READING LEVEL 2. Introduces fundamental concepts and techniques used to design computer programs. Explores problem definition, algorithm development, and program documentation. Examines best practices, structured code, and object-oriented design. Implements design concepts in a programming language. Develops skills in basic operations on data, control structures, modules, arrays, classes, inheritance, polymorphism and error handling. (30-0)

CST 180 C++ Programming 3 Sem Hrs

Prerequisite: CST 173 or CST 177 or permission of instructor. Uses the C++ language to solve software problems. Develops solutions to computing problems through algorithm design, development, implementation, and testing. Includes control structures, arrays, files, strings, pointers, and fundamental object-oriented programming. Credit may be earned in CST 180 or CST 181 but not both. (45-0)

CST 183 Principles of Computer Programming I 4 Sem Hrs

Prerequisites: MATH LEVEL 4 and CST 173 (or CST 170), or instructor permission. Introduces programming abilities necessary for computer science. Includes control structures, subprograms, string handling, arrays, files, and use of graphical user interface components. Emphasizes object-oriented programming concepts. And use of classes. Introduces exception handling, drawing, and multithreading. (60-0)

CST 184 Mobile Apps Programming - iOS 3 Sem Hrs

Prerequisite: CST 180 or CST 183 either with a minimum grade of "C", or permission of instructor. Introduces iOS programming for mobile iPhone and iPad applications. Utilizes the Apple development tools and environment. Includes basic app interface design, view/navigation controllers, actions/outlets, and storyboards. Integrates data sources with apps and applies object oriented programming techniques for app development. (45-0)

CST 185 Android Application Development 3 Sem Hrs

Prerequisite: CST 173 with a minimum grade of "C" or instructor permission. Designs, develops, and maintains simple mobile applications geared toward Android devices. Focuses primarily on programming, graphic design, and application development for various mobile devices. (45-0)

CST 186 Introduction to Game Programming 2 Sem Hrs

Prerequisite: CST 173 (or CST 170) with "C" or better. Introduces principles of game and simulation programming through hands-on creation of simple games. Explores text-based and graphics-based game development through algorithm design, development, implementation, testing, and documentation. Incorporates text, graphics, sound, and animations in game design. Includes Top-Down Design, Object Oriented Programming, simple physics, basic Artificial Intelligence, and game engines. (30-0)

CST 204 Microsoft Word: Intermediate 2 Sem Hrs

Prerequisite: CST 104 with a "C" grade or higher. Develops further the practical working knowledge of Microsoft Word software. Refines formatting and focuses on page layout and design. (30-0)

CST 210 Website Development 3 Sem Hrs
Focuses on building websites in compliance with current standards and best practices. Develops skills in formatting and page layout using HTML and CSS. Emphasizes development for target audiences, extending web presence, and managing differences in web browsers and devices. Introduces incorporation of interactive elements using scripts, embedded media, and mash-ups. Examines Internet issues including ethics, accessibility, copyright, and security. (45-0)

CST 214 Responsive Design 3 Sem Hrs
Prerequisite: CST 210 or instructor permission. Focuses on developing for the web with an emphasis on optimal viewing experience and interaction across a wide range of devices. Develops skills in adapting layout to the viewing environment by using fluid, proportion based grids, flexible images, and media queries. Introduces responsive design/development best practices, including mobile first, unobtrusive JavaScript, and progressive enhancement. (45-0)

CST 216 Web Site Management 3 Sem Hrs
Prerequisite: CST 210 or instructor permission. Explores the design and management of web sites using a variety of software applications. Uses hands-on experiences to create advanced web pages including hyperlinks, lists, tables, frames, forms, graphics, and special effects. (45-0)

CST 217 Programming for the Web 3 Sem Hrs
Prerequisite: CST 210 or instructor permission. Introduces web server programming for processing user interactions with an Internet server. Focuses on processing web page form information, dynamically creating web pages, executing data-driven applications on a Web server, and performing various interactions with a Web user. (45-0)

CST 218 Web Application Development 3 Sem Hrs
Prerequisite: CST 217 or instructor permission. Focuses on developing data driven applications for the web with an emphasis on developing cross platform applications, which function consistently across a wide range of devices. Develops skills in creating web-based applications utilizing open source resources. (45-0)

CST 219W Web Site Deployment 2 Sem Hrs
Prerequisite: CST 217. Provides capstone experience for development of a complete web site for realistic client needs. Includes determination of requirements and web system design from an actual or hypothetical client. Includes deployment of a web site with a well-defined home page, multiple content pages, required graphics, forms, and server database interaction. (0-30)

CST 228 Advanced PC Troubleshooting 4 Sem Hrs
Covers common and advanced Microsoft Windows interface troubleshooting problems and techniques for solving them. Discusses function and structure of Microsoft Windows environment for managing operating systems and applications. (60-0)

CST 235W Systems Analysis and Design 3 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3, and CST 133, and CST 173 (or CST 170) all with a minimum grade of "C," one semester of accounting, and a programming language course. Studies the traditional System Development Life Cycle (SDLC) and specific attention to each phase that pertains within the overall Information Technology processes. Focuses on current systems that are successful as well as unsuccessful outcomes. (45-0)

CST 257 Database MS Access 3 Sem Hrs
Prerequisite: Any microcomputer class. Emphasizes the advantages of database processing, modeling, and design. Discusses design concepts from the standpoint of the user. Uses Microsoft ACCESS. Credit may be earned in CST 257 or CIS 260, but not both. (45-0)

CST 258 Introduction to Structured Query Language 1 Sem Hr
Prerequisite: CST 257. Examines SQL (Structured Query Language) which is the standard database language. Creates, updates, and retrieves information from relational databases. (15-0)

CST 259 Database Administration 3 Sem Hrs
Prerequisite: CST 159 with a minimum grade of "C." Gives a firm foundation in basic administration of a database. Installs and maintains a database software, gains a conceptual understanding of database architecture and how its components work and interact with one another. Creates an operational database and properly manages the various structures in an effective and efficient manner including performance monitoring, database security, user management, and backup/recovery techniques. (30-15)

CST 260 Scaling Networks 3 Sem Hrs
Prerequisite: CST 164 with a minimum grade of "C." Configures routers and switches for advanced functionality. Configures and troubleshoots routers and switches and resolves common issues with protocols in both IPv4 and IPv6 networks. (15-30)

CST 262 Advanced Novell Networking 3 Sem Hrs
Prerequisite: CST 162. Configures various types of servers. Defines and configures the NetWare graphical user interface. Administers NetWare Storage Services, NetWare Memory Management, and Novell Directory Services. (45-0)

CST 263 Advanced Microsoft Networking 3 Sem Hrs
Prerequisites: CST 161 and CST 163. Manages data storage, shared resources, and access rights. Manages and troubleshoots the network infrastructure, servers, client computers, and active directory objects. Manages software and security policies. (45-0)

CST 264 Connecting Networks 3 Sem Hrs
Prerequisite: CST 260 with a minimum grade of "C." Discusses the WAN technologies and network services required by converged applications in a complex network. Explains the selection criteria of network devices and WAN technologies to meet network requirements. (15-30)

CST 265 Linux Networking II 3 Sem Hrs
Prerequisite: CST 165. Covers configuring different types of servers, administering advanced network administration tasks with command-line and graphical user interface tools, printing, and troubleshooting. (45-0)

CST 266 Information Security 4 Sem Hrs
Prerequisites: CST 164 and one of the following: CST 262, 263 or 265. Analyzes, designs, defines, and troubleshoots security policies and procedures to maintain information integrity, confidentiality and availability. (60-0)

CST 267 Introduction to Computer Forensics 3 Sem Hrs
Prerequisite: CST 266. Provides a comprehensive understanding of computer forensics and electronic discovery along with associated investigation tools and techniques. Explores computer forensic theory and focuses various forensic skills used in the Information Security profession. (45-0)

CST 268W Special Topics in IT Support 2 Sem Hrs
Prerequisites: CST 128 and CST 228. Serves as the capstone course in the PC Support segment of the IT Support program certificate and/or degree. Students plan, implement, and participate in a community service, non-profit organization, internship, or job shadow that integrates community service with their academic instruction and personal goals. Focuses on PC hardware, software, network/security procedures, and communication skills. Based on 48 hours of project/community service. (15-15)

CST 269 Cisco Security 3 Sem Hrs
Prerequisite: CST 161, 164, and 260. Introduces core security concepts and skills needed for the installation, troubleshooting, and monitoring of network devices to maintain the integrity, confidentiality, and availability of data and services. Stresses Command Line Interface (CLI) for securing Cisco equipment. Provides an in-depth, theoretical understanding of Cisco security in a logical sequence driven by technology. (15-30)

CST 270 Special Topics in Network Administration 3 Sem Hrs

Prerequisite: CST 260 and one of CST 262 or CST 263 or CST 265; and at least one 200-level advanced networking course. Serves as the capstone class for the Network program. Gains practical experience through a 30-hour volunteer service learning project to apply and reinforce skills learned in the Network program. Apply in Division office for placement in CST 270 in the semester prior to anticipated placement. (15-30)

CST 271 Visual Basic Programming II 3 Sem Hrs

Prerequisites: CST 171 and CST 173. Writes programs in a Windows environment using Visual Basic to design custom user interfaces with menus and dialogue boxes. Set up menus, create functions, and create executable files. Includes multiple forms, arrays, object linking and embedding, sequential and random data files, databases, and trapping programming errors. (45-0)

CST 273 MS Applications Using Visual BASIC 2 Sem Hrs

Prerequisite: CST 171, CST 173, and one of the following: CST 133W, CST 134, CST 155. Emphasizes writing advanced applications in the windows environment using visual basic. Discusses linking to other windows applications, manipulating databases, and handling run-time errors. Includes creating user-friendly executable applications. Credit may be earned in CST 273 or CIS 241, but not both. (30-0)

CST 274 Network+ Certification Prep 2 Sem Hrs

Prerequisite: CST 270. (May be taken concurrently.) Reinforces the real-world skills required of a Network Administrator. Prepares for the CompTIA's Network+ certification exam as well as the TestOut Network Pro certification exam. (30-0)

CST 278 A+ Certification Prep 3 Sem Hrs

Prerequisites: CST 128 AND CST 228 both with a minimum grade of "C." Prepares for the CompTIA A+ certification exam as well as the TestOut PC Pro certification exam. Performs real-world skills that are required for an IT Support Specialist. (45-0)

CST 283 Principles of Computer Programming II 4 Sem Hrs

Prerequisite: CST 180 or CST 183. Introduces data structures and object-oriented programming. Includes array processing, sorting and searching algorithms, and pointer variables, and recursive programming. Studies data storage and retrieval using lists, stacks, queues, and trees. Utilizes object oriented programming methods including classes, composition, and inheritance. Credit may be earned in CST 283, CST 280, or CST 281 and CST 282 combined, but not in more than one. (60-0)

CST 284W Business Information Technology Capstone 2 Sem Hrs

Prerequisites: CST 155, CST 204, CST 257, and MGT 153W all with a minimum grade of "C" or permission of instructor. Serves as the capstone course in the Business & Information Technology degree program. Includes development of a career portfolio to illustrate professionalism and business technology skills. Uses technology to research and analyze topics including careers in business, certifications, and job search preparation, as well as issues related to current information technology topics. Recommended to be taken in the last semester of a student's business and information technology program. (15-15)

CST 290-299 Special Projects in Computer Science and Information Technology

CST 392 Instructional Technology for Educators 3 Sem Hrs

Introduces software and internet applications technology for educators. Includes effective use of the Internet with e-mail, web usage and searching. Introduces tools for creation and modification of web pages. Includes various applications and techniques useful for teachers including presentation software, scanning and capturing graphics, spreadsheets, and classroom management tools. (45-0)

Chemical Technology

CT 101 Introduction to Chemical Technology 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides an overview of Chemical Technology with focus on the role of the chemical technician. Introduces concepts of safety, regulation, laws affecting the job and the industry, and quality control. Includes study skills and attitudes necessary for study of science/technology as well as means of continuing professional and personal growth. Credit may be earned in only one of the following: CT 100, CT 101 or CPI 110. (15-0)

CT 290-299 Special Projects in Chemical Technology

Dental Assisting

DA 106W Infection Control 2 Sem Hrs

Prerequisites: BIO 140W or BIO 152W and BIO 153W; any approved College Composition I; and any COM 112W or COM 114W, with a "C" (2.0) or better in each. Concurrent enrollment in DA 113W and DA 117W. Introduces principles of the control of infectious diseases in the dental environment. Presents OSHA, MIOSHA, Hazard Control, and Delta College Infection Control Protocol. Introduces basic microbiology. (30-0)

DA 110 Clinical Dental Assisting 3 Sem Hrs

Prerequisites: BIO 140W or BIO 152W and BIO 153W; any approved College Composition I; and COM 112W or COM 114W, with a "C" (2.0) or better in each. Concurrent enrollment in DA 110LW, and DA 114W. Provides the opportunity to explore the skills and knowledge for general chairside clinical procedures. (45-0)

DA 110LW Clinical Dental Assisting I Lab 4 Sem Hrs

Prerequisites: BIO 140W or BIO 152W and BIO 153W; any approved College Composition I; and COM 112W or COM 114W, with a "C" (2.0) or better in each. Corequisites: DA 110, and DA 114W. Provides the opportunity for application of clinical techniques. Implements OSHA's practical skills. (0-120)

DA 113W Oral Anatomy & Physiology 4 Sem Hrs

Prerequisites: BIO 140W or BIO 152W and BIO 153W; any approved College Composition I; and COM 112W or COM 114W, with a "C" (2.0) or better in each. Concurrent enrollment in DA 106W and DA 117W. Introduces basic structures and physiology of the oral cavity, head, and neck. Includes oral histology, embryology, and pathology related to the development of the dental structure. (60-0)

DA 114W Dental Materials I 2 Sem Hrs

Prerequisites: BIO 140W or BIO 152W and BIO 153W; any approved College Composition I; and COM 112W or COM 114W, with a "C" (2.0) or better in each. Concurrent enrollment in DA 106W, DA 110, and DA 110LW. Presents theory, properties, manipulation, and hazard management of dental material to include cements, liners, amalgam, and resins. (30-0)

DA 117W Dental Health and Nutrition 1 Sem Hr

Prerequisites: BIO 140W or BIO 152W and BIO 153W; any approved College Composition I; and COM 112W or COM 114W, with a "C" (2.0) or better in each. Concurrent enrollment in 113W. Emphasizes oral hygiene, general and applied nutrition, as well as patient motivation techniques. Dental health projects required. (15-0)

DA 120 Clinical Dental Assisting II 3 Sem Hrs

Prerequisites: DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120LW, DA 121W, DA 125W, and DA 125LW. Provides the knowledge for additional application of dental techniques to include dental specialties. (45-0)

DA 120LW Clinical Dental Assisting II Lab 4 Sem Hrs
Prerequisites: DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120, DA 121W, DA 125W, and DA 125LW. Provides opportunity for additional application of dental techniques to include dental specialties. (0-120)

DA 121W Clinical Practice 3 Sem Hrs
Prerequisites: DA 106W, DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120, DA 120LW, DA 125W, and DA 125LW. Provides the opportunity to apply practical skills in a clinical setting. Requires assignments in off-campus facilities and dental hygiene clinics. (0-45)

DA 123LW Dental Radiology Lab 2 Sem Hrs
Prerequisites: DA 106W, DA 113W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 123W. Provides laboratory practice in the application of commonly used dental radiographic procedures utilizing mannequins and clinic patients. (0-60)

DA 123W Dental Radiology 2 Sem Hrs
Prerequisites: DA 106W, DA 113W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 123LW. Introduces the principles of radiation physics, factors affecting radiographic images, biological effects of radiation, and the protective measures necessary in dental radiation (30-0)

DA 125LW Dental Materials II Lab 2 Sem Hrs
Prerequisites: DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120, DA 120LW, DA 121W, and DA 125W. Introduces the manipulation of indirect and adjunct restorative procedures. (0-60)

DA 125W Dental Materials II 2 Sem Hrs
Prerequisites: DA 110, DA 110LW, DA 113W, DA 114W, DA 117W, and HSC 140 with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 120, DA 120LW, DA 121W, and DA 125LW. Introduces the theory of indirect and adjunct restorative procedures. (30-0)

DA 129W Dental Office Management 2 Sem Hrs
Prerequisite: DA 123 and DA 123L with a "C" (2.0) minimum grade. Emphasizes fundamental office skills in managing patient and business records, handling the telephone and visitors, controlling the appointment book, and processing dental claim forms. Includes basic financial procedures and computer use. (30-0)

DA 130W Dental Assisting Internship 6 Sem Hrs
Prerequisite: DA 120 and DA 120LW with a minimum "C" (2.0) grade in each. Concurrent enrollment in DA 133. Provides the opportunity to perform chairside assisting techniques, laboratory procedures, and dental office management skills while under direct supervision. Assignments will be made to dental care facilities. (0-260)

DA 131LW RDA Exam Prep Lab 5 Sem Hrs
Prerequisites: DA 120, DA 120LW, DA 121W, DA 123W, DA 123LW, DA 125W and DA 125LW with a "C" (2.0) minimum grade. Concurrent enrollment in DA 131W. Provides continual dental procedure knowledge and skill development needed to perform expanded functions as permitted by State of Michigan Complete RDA mock clinical exam. (0-95)

DA 131W RDA Exam Prep 1 Sem Hr
Prerequisites: DA 120, DA 120LW, DA 121W, DA 123W, DA 123LW, DA 125W, and DA 125LW with a "C" (2.0) minimum grade in each. Concurrent enrollment in DA 131LW. Provides continual dental procedure knowledge and skill development needed to perform expanded functions as permitted by State of Michigan Complete RDA mock written exam. (15-0)

DA 133W Dental Assisting Internship Seminar 1 Sem Hr
Prerequisite: DA 120 and DA 120LW with a minimum "C" (2.0) grade in each. Concurrent enrollment in DA 130. Provides opportunities to share internship experiences and future educational goals. Develops resume writing and job seeking skills. (15-0)

DA 290-299 Special Projects in Dental Assisting

Dental Hygiene

DH 100 Dental Hygiene Profession 1 Sem Hr
Provides overview of the Dental Hygiene Profession including the history and organizational structure of the American Dental Hygiene Association, and the ethical/legal aspects of the profession. Required dental office observation required. (15-0)

DH 101 Dental Anatomy I 2 Sem Hrs
Examines terminology of dental anatomy, morphology of the human dentitions and occlusion. (30-0)

DH 110 Dental Infection Control 2 Sem Hrs
Prerequisite: Current validation for Dental Hygiene Program. Presents theory and application of procedures and skills necessary to control transmissible diseases. Provides opportunities to practice Universal Precautions for the patient, professional, environment, and facilities. (15-30)

DH 111 Oral Examinations 1 Sem Hr
Prerequisite: DH 100 and 101 each with a C (2.0) minimum grade and admission to the Dental Hygiene Program. Provides opportunity to practice skills necessary to perform dental charting and oral cancer examinations. Examines the various parts of dental appliances. (0-30)

DH 112 Medical Assessment/Emergencies 2 Sem Hrs
Prerequisites: DH 100 and 101 each with a C (2.0) minimum grade, current HCP CPR certification and admission to the Dental Hygiene Program. Provides the opportunity to practice assessment, identification, and dental hygiene treatment protocol of septicemic emergencies which may occur in treating the dental patient. (15-30)

DH 114 Oral Health 2 Sem Hrs
Prerequisites: DH 100 and 101, each with a C (2.0) minimum grade and admission to the Dental Hygiene Program. Presents theory of the characteristics, origin, and development of fluoride, dentifrices, mouthwashes, and deposits that affect the tooth surface. Emphasizes tooth brushing, auxiliary aids, dental appliances, care of pre/post surgical and oral cancer patients. (15-45)

DH 115 Clinical Techniques 5 Sem Hrs
Prerequisites: DH 100 and 101 each with a C (2.0) minimum grade and admission to the Dental Hygiene Program. Presents theory and application of various periodontal instruments, plaque and stain removal and instrument sharpening skills that are necessary for proper use in the dental hygiene diagnostic and therapeutic services. Emphasizes proper documentation of findings. (45-90)

DH 116 Preventive Nutrition 3 Sem Hrs
Prerequisites: DH 100 and 101, each with a C (2.0) minimum grade and admission to the Dental Hygiene Program. Provides theory of foods, essential nutrients and their effects on general health as well as oral health. Emphasizes nutrition in dentistry for the dental hygienist in prevention and health promotion. (45-0)

DH 118 Head and Neck Anatomy 3 Sem Hrs
Prerequisites: DH 100 and 101, each with a C (2.0) minimum grade and admission to the Dental Hygiene Program. Presents anatomy of the human head and neck and surrounding structures. Emphasizes basic anatomical terminology, landmarks, and a complete description of the skeletal, muscular, lymphatic, vascular, and innervation systems. (30-45)

DH 120 Periodontics I 3 Sem Hrs
Prerequisites: DH 110, 111, 112, 114, 115, 116, and 118 each with a C (2.0) minimum grade. Provides the opportunity to study the biology of the periodontium, etiology, epidemiology, pathology, and treatment of periodontal diseases. (45-0)

DH 121 Dental Hygiene Seminar I 2 Sem Hrs
Prerequisites: DH 110, DH 111, DH 112, DH 114, DH 115, DH 116, and DH 118 each with a C (2.0) minimum grade. Introduces fundamentals of treatment planning, recall systems, documentation, patient management, and communication with diverse patient populations. (30-0)

DH 122 Oral Histology and Embryology 3 Sem Hrs
Prerequisites: DH 110, 111, 112, 114, 115, 116, and 118 each with a C (2.0) minimum grade. Provides theory of the embryological development of the oral cavity and identification and classifications of normal and abnormal conditions of the oral cavity and supporting structures. Includes microscopic study of the histology of the human dentition and the surrounding supporting structures. (45-0)

DH 123 Dental Radiography 2 Sem Hrs
Prerequisites: DH 110, 111, 112, 114, 115, 116, and 118 each with a C (2.0) minimum grade. Presents theory of characteristics of radiation, components and functions of x-ray equipment, x-ray production, radiation biology and safety as well as processing and technical errors. (30-0)

DH 123L Dental Radiography Lab 1 Sem Hr
Prerequisites: DH 110, 111, 112, 114, 115, 116, and 118 each with a C (2.0) minimum grade. Introduces the techniques of exposing, processing, and mounting dental radiographs, as well as radiographic interpretation. (0-45)

DH 124A Pharmacology for Dental Hygiene I 1 Sem Hr
Prerequisites: DH 110, DH 111, DH 112, DH 114, DH 115, DH 116, and DH 118 each with a C (2.0) minimum grade. Concurrent enrollment in DH 120, DH 121, DH 122, DH 123, DH 123L, DH 125 and LW 206A. Provides introduction to drugs regarding terminology, action of drug, dosage, and precautions. (15-0)

DH 124B Pharmacology for Dental Hygiene II 1 Sem Hr
Prerequisites: DH 120, DH 121, DH 122, DH 123, DH 123L, DH 125 and LW 206A each with a C (2.0) minimum grade. Concurrent enrollment in DH 130, DH 131, DH 135, LWA 206B. Provides information regarding drugs including origin, physical and chemical properties, methods of administration, and biological effects on the various body systems. (15-0)

DH 125 Clinical Dental Hygiene I 4 Sem Hrs
Prerequisites: DH 110, DH 111, DH 112, DH 114, DH 115, DH 116, and DH 118 (each with a minimum "C" grade). Concurrent enrollment in DH 120, DH 121, DH 122, DH 123, DH 123L, DH 124, and LW 206A. Provides the opportunity to implement basic treatment skills with clinic patients. (15-120)

DH 130 Management of Dental Pain and Anxiety in the Dental Office 3 Sem Hrs
Perquisites: DH 120, DH 121, DH 122, DH 123, DH 123L, DH 124A, DH 125, and LW 206A with a minimum "C" (2.0) grade in each. Concurrent enrollment in DH 124B, DH 131, DH 135, and LWA 206B. Provides the knowledge and practice to administer local anesthesia and nitrous oxide/oxygen sedation in a safe and effective manner. Provides the opportunity to perform various local anesthetic injection techniques and administer nitrous oxide and oxygen to achieve conscious sedation at a clinical level of competency. (30-30)

DH 131 Dental Hygiene Seminar II 1 Sem Hr
Prerequisites: DH 120, DH 121, DH 122, DH 123, DH 123L, DH 124A, DH 125, and LW 206A each with a C (2.0) minimum grade. Concurrent enrollment in DH 124B, DH 130, DH 135, and LWA 206B. Emphasizes the study of techniques and philosophies of treating patients with special needs. (15-0)

DH 135 Clinical Dental Hygiene II 3 Sem Hrs
Prerequisites: DH 120, DH 121, DH 122, DH 123, DH 123L, DH 124A, DH 125, and LW 206A, each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 124B, DH 130, DH 131, and LWA 206B. Provides the opportunity to practice and increase the students' proficiency skill levels from previous Dental Hygiene courses. (7.5-90)

DH 210W Periodontics II 2 Sem Hrs
Prerequisites: DH 124B, DH 130, DH 131, DH 135, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 213, DH 214W, DH 215, DH 216W, and DH 219. Provides the opportunity for assessment, documentation, and treatment with pain management of the periodontal patient and to demonstrate ultrasonic scaling, root debridement, planning, and irrigation. (15-45)

DH 213 Oral Pathology 3 Sem Hrs
Prerequisites: DH 124B, DH 130, DH 131, DH 135 and LWA 206B each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 210, DH 214, DH 215, DH 216 and DH 219. Introduces the process, identification, and classification of oral diseases. Emphasizes the prevention of the diseases with the scope of responsibility and practice of the dental hygienist. (45-0)

DH 214W Dental Materials 4 Sem Hrs
Prerequisites: DH 124B, DH 130, DH 131, DH 135 and LWA 206B each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 210, DH 213, DH 215, DH 216 and DH 219. Presents theory and clinical application related to properties and manipulation of dental materials and devices used in dental procedures. (45-45)

DH 215 Clinical Dental Hygiene III 6 Sem Hrs
Prerequisites: DH 124B, DH 130, DH 131, DH 135, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 210, DH 213, DH 214, DH 216, and DH 219. Provides the opportunity to practice and increase the students' proficiency skill levels of advanced instruments from previous Dental Hygiene courses. (15-180)

DH 216W Community Dentistry I 2 Sem Hrs
Prerequisites: DH 124B, DH 130, DH 131, DH 135 and LWA 206B each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 210, DH 213, DH 214, DH 215, and DH 219. Provides theoretical base for assessing, designing, implementing, and evaluating dental health improvement programs. (30-0)

DH 219W Case Study Documentation I .5 Sem Hr
Prerequisites: DH 124B, DH 130, DH 131, DH 135, LWA 206B each with a "C" (2.0) minimum grade. Corequisites: DH 210, DH 213, DH 214, DH 215, DH 216. Provides an opportunity to identify the steps and begin using the process of case documentation for dental patients' conditions and treatment. (7.5-0)

DH 222W Case Study Documentation II 1.5 Sem Hrs
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216, and DH 219 each with a "C" (2.0) minimum grade. Corequisites: DH 225, DH 227, DH 228, DH 229, and LWA 206C. Provides further opportunity to present specific case documentation on dental patients' conditions/treatments. (22.5-0)

DH 225 Clinical Dental Hygiene IV 6 Sem Hrs
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216, and DH 219 each with a "C" (2.0) minimum grade. Concurrent enrollment in DH 222, DH 227, DH 228, DH 229, and LWA 206C. Provides the opportunity to perfect dental hygiene skills learned in all previous dental hygiene courses and learn advanced instrumentation skills as well as application of pit and fissure sealants. (15-180)

DH 227W Community Dentistry II 1 Sem Hr
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216 and DH 219, each with a "C" (2.0) minimum grade. Concurrent Enrollment in DH 222, DH 225, DH 228, DH 229 and LWA 206C. Provides opportunity for assessment of dental health needs for target populations. Includes design, implementation, and evaluation of dental health improvement programs in non-traditional settings. Evening, weekend, and holiday assignments may be required. (0-45)

DH 228 Dental Hygiene Seminar III 1 Sem Hr
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216 and DH 219 each with a "C" (2.0) minimum grade. Concurrent Enrollment in DH 222, DH 225, DH 227, DH 229 and LWA 206C. Provides theory and techniques of treating patients with chemical dependencies and special needs. Includes the coordination of treatment phases of the AIDS patient. (15-0)

DH 229 Seminar on Practical Exam 2 Sem Hrs
Prerequisites: DH 210, DH 213, DH 214, DH 215, DH 216, and DH 219 with a minimum grade of "C" (2.0). Concurrent enrollment in DH 222, DH 225, DH 227, DH 228, and LWA 206C. Provides strategies and opportunities to practice skills to enhance success in licensure exams, position searches, and private practice. (15-30)

DH 290-299 Special Projects in Dental Hygiene Sem Hr

Diagnostic Medical Sonography

DMS 100 Patient Care and Management 1 Sem Hr
Prerequisite: Concurrent enrollment in DMS 105W, DMS 107, DMS 107L, DMS 108W. Develops knowledge and skills in basic concepts of patient care. Includes emergency care procedures, infection control, patient safety and transfers, communication, and patient education. Must be accepted into the DMS program or have consent of instructor. (15-0)

DMS 101W Introduction to Sonography 2 Sem Hrs
Prerequisite: DMS 100, DMS 105W, DMS 107, DMS 107L, DMS 108W; all with a minimum grade of "B" (3.0). Concurrent enrollment in DMS 103, DMS 104, and DMS 106W. Introduces various aspects of sonography and health care including terminology, legal and ethical issues, patient care, and imaging modalities. (30-0)

DMS 103 Introduction to Abdominal Sonography 3 Sem Hrs
Prerequisite: DMS 100, DMS 105W, DMS 107, DMS 107L, DMS 108W with a "B" (3.0) grade or better. Concurrent enrollment in DMS 101W, DMS 104, and DMS 106W. Studies basic anatomy and physiology relating to abdominal sonography. Teaches proper scanning techniques and protocols for identifying normal and abnormal sonographic patterns. Discusses clinical signs and symptoms, along with interpretation of clinical lab tests. (45-0)

DMS 104 Introduction to OB/GYN Sonography 2 Sem Hrs
Prerequisite: DMS 100, DMS 105W, DMS 107, DMS 107L, DMS 108W with a "B" (3.0) grade or better. Concurrent enrollment in DMS 101W, DMS 103, and DMS 106W. Discusses various aspects of OB/GYN sonography. Studies normal sectional anatomy and development, fetal assessment, normal and abnormal sonographic patterns, along with techniques and protocols. (30-0)

DMS 105W Ultrasound Physics and Instrumentation I 2 Sem Hrs
Prerequisite: Must be accepted into the DMS program or have consent of instructor. Concurrent enrollment in DMS 100, DMS 107, DMS 107L, DMS 108W. Introduces the basic acoustic physics including a history of instrumentation, ultrasonic propagation principles, transducer parameters, and basic equipment types. (30-0)

DMS 106W Ultrasound Scanning 4 Sem Hrs
Prerequisite: DMS 100, DMS 105W, DMS 107, DMS 107L, DMS 108W, with a "B" (3.0) grade or better. Concurrent enrollment in DMS 101W, DMS 103, DMS 104. Provides hands on experience in sonographic imaging. Teaches basic operations of the ultrasound machine along with transducer orientation. Includes an overview of abdominal and pelvis imaging, scan plane recognition, and basic imaging concepts. (75-0)

DMS 107 Introduction to Ultrasound Scanning .5 Sem Hr
Must be accepted into the DMS program. Concurrent enrollment in DMS 100, DMS 105W, DMS 108, DMS 107L. Provides an introduction to sonographic imaging. Teaches basic operations of the ultrasound machine along with transducer orientation and imaging scan planes. (7.5-0)

DMS 107L Introduction to Ultrasound Scanning Lab 1.5 Sem Hrs

Must be accepted into the DMS program. Concurrent enrollment in DMS 100, DMS 105W, DMS 108, DMS 107. Provides an introduction to sonographic imaging. Teaches basic operations of the ultrasound machine along with transducer orientation and imaging scan planes. (0-22.5)

DMS 108W Becoming a Master Sonography Student 2 Sem Hrs

Prerequisites: Must also enroll in DMS 100, DMS 105W, DMS 107. Assists in obtaining skills critical to success in the DMS program. Demonstrates and practices strategies in test taking, textbook reading, memory, and thinking critically. Identifies DMS expectations and explores college resources and life skills related to success in an occupational health program. Begins to explore professionalism for the healthcare worker. Demonstrates and practices working in a group, teamwork, and interpersonal skills. Must be accepted into the DMS program. (30-0)

DMS 112 Small Parts Sonography 1 Sem Hr

Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106 each with a "B" (3.0) grade or better and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 113, DMS 114, DMS 115, DMS 116, and DMS 117. Covers the fundamentals of superficial parts sonography. Presents basic small parts anatomy, as well as proper scanning techniques and protocols for identifying normal and abnormal sonographic patterns. (15-0)

DMS 113 Advanced Abdominal Sonography 1 Sem Hr

Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106 each with a "B" (3.0) or better and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 114, DMS 115, DMS 116, and DMS 117. Presents pathology and disease processes, normal and abnormal sonographic patterns, clinical correlation, and differential diagnosis of the abdominal cavity. (15-0)

DMS 114 Advanced OB/GYN Sonography 2 Sem Hrs

Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106, each with a "B" (3.0) minimum grade, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 113, DMS 115, DMS 116, and DMS 117. Presents pathology and disease processes, normal and abnormal sonographic patterns, clinical correlation, and differential diagnosis of the obstetrical and gynecologic patient. (30-0)

DMS 115 Ultrasound Physics and Instrumentation II 2 Sem Hrs

Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106, all with a "B" (3.0) minimum grade and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 113, DMS 114, DMS 116, and DMS 117. Presents the fundamentals of Doppler ultrasound, scanning artifacts, quality assurance, and biologic effects, and safety. Includes an overview of the components of an ultrasound system. (30-0)

DMS 116W Clinical Seminar I .5 Sem Hr

Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106 all with a "B" (3.0) minimum grade, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 113, DMS 114, DMS 115, and DMS 117. Provides a clinical overview of sonographic procedures of the abdomen, pelvis, fetus, and small parts. Emphasizes identification of normal anatomy and basic pathology. (7.5-0)

DMS 117W Clinical Education I 5 Sem Hrs

Prerequisites: DMS 101, DMS 103, DMS 104, and DMS 106 all with a "B" (3.0) minimum grade, and LW 206A with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 112, DMS 113, DMS 114, DMS 115, and DMS 116. Provides structured clinical experience necessary to perform sonographic procedures of the abdomen, pelvis, fetus, and small parts. (0-440)

DMS 201 Introduction to Neurologic and Vascular Sonography 3 Sem Hrs

Prerequisites: DMS 112, DMS 113, DMS 114, DMS 115, DMS 116, and DMS 117 each with a "B" (3.0) minimum grade. Concurrent enrollment in DMS 202, DMS 206, DMS 207, LWA 206B, and LWA 206C. Provides an overview of sonographic imaging of the neonatal and infant brain. Includes normal and abnormal anatomy and sonographic patterns. Looks at basic vascular ultrasound with emphasis on normal anatomy, imaging techniques, and basic pathology. (45-0)

DMS 202 Ultrasound Seminar I 4 Sem Hrs

Prerequisites: DMS 112, DMS 113, DMS 114, DMS 115, DMS 116, and DMS 117 all with a "B" (3.0) minimum grade. Concurrent enrollment in DMS 201, DMS 206, DMS 207, LWA 206B, and LWA 206C. Presents basic techniques and protocols for invasive and intraoperative sonography. Looks at advanced sonographic imaging procedures, new advances in the field of sonography, and the fundamental elements for maintaining an ultrasound department. (60-0)

DMS 206W Clinical Seminar II .5 Sem Hr

Prerequisites: DMS 112, DMS 113, DMS 114, DMS 115, DMS 116, and DMS 117, all with a "B" (3.0) minimum grade. Concurrent enrollment in DMS 201, DMS 202, DMS 207, LWA 206B, and LWA 206C. Provides a clinical overview of sonographic procedures of the abdomen, pelvis, fetus, and superficial parts. Emphasizes identification of pathology, recognition of disease processes, sonographic differentials, and clinical correlation. (7.5-0)

DMS 207 Clinical Education II 5 Sem Hrs

Prerequisites: DMS 112, DMS 113, DMS 114, DMS 115, DMS 116, and DMS 117 all with a "B" (3.0) minimum grade. Concurrent enrollment in DMS 201, DMS 202, DMS 206, LWA 206B, and LWA 206C. Provides structured clinical experience necessary to perform sonographic procedures of the abdomen, pelvis, fetus, small parts, and vascular system. (0-440)

DMS 212 Ultrasound Seminar II 4 Sem Hrs

Prerequisites: DMS 201, DMS 202, DMS 206, and DMS 207 all with a "B" (3.0) minimum grade, and LWA 206B and LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 217. Discusses all aspects of sonographic imaging including scanning techniques and protocols, normal and abnormal sonographic patterns, pathologic and disease processes, and differential diagnosis. Includes preparation for the ARDMS certifying examinations. (60-0)

DMS 217 Clinical Education III 5 Sem Hrs

Prerequisites: DMS 201, DMS 202, DMS 206, and DMS 207 each with a "B" (3.0) minimum grade, and LWA 206B and LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in DMS 212. Provides structured clinical experience necessary to perform sonographic procedures of the abdomen, pelvis, fetus, small parts, and vascular system. (0-440)

DMS 290-299 Special Projects in Diagnostic Medical Sonography

Drafting

DRF 104 Basic Mechanical Design 4 Sem Hrs

Developed for students with no drafting experience, less than one year of high school mechanical drafting, or for students with less than a C (2.0) grade in mechanical drafting. Provides instruction and practice to develop skill in spatial visualization, sketching, multiview instrument drawing, section views, design concept presentation, pictorial drawing, and American National Standards Institute (ANSI) conventional drafting and dimensioning standards. Credit may be earned in DRF 104 or DRF 105 but not in both. (15-105)

DRF 105 Beginning Mechanical Design 3 Sem Hrs

Provides instruction and practice to develop skill in spatial visualization, sketching, multiview instrument drawing, section views, design concept presentation, pictorial drawing, and American National Standards Institute (ANSI) conventional drafting and dimensioning standards. Credit may be earned in DRF 104 or DRF 105 but not both. (15-75)

DRF 107 Intermediate Mechanical Design 3 Sem Hrs

Prerequisite: DRF 121 or SKDR 101; and CAD 114. Applies computer-aided and manual methods to the mechanical design process using single and multi-view dimensioning, tolerancing, limit dimensions, thread representation and symbols, orthographic projection, auxiliary views, revolution views, design specifications, working drawings, and vectors for analysis. (30-30)

DRF 121 Blueprint Reading 3 Sem Hrs

Introduces blueprint symbols and their meaning as used in a manufacturing operation. Provides instruction and practice to develop skill in spatial visualization, sketching, orthographic projection, including auxiliary and sectional views, detail and assembly drawings, dimensioning and tolerances, title blocks, material lists, and notes for use by various manufacturing personnel and American National Standards Institute (ANSI) conventional drafting and dimensional standards. Credit may be earned in DRF 121 or SKDR 101 but not both. (45-0)

DRF 122 Blueprint Reading for Welders and Fabricators 2 Sem Hrs

Prerequisite: DRF 120 or DRF 121 or SKDR 101 or WELD 120 or basic knowledge of blueprint reading. Applies principles specifically designed for welders and fabricators working with welding drawings. Interprets basic blueprint information, orthographic projection, assembly drawings, and geometric tolerancing. Places emphasis on welding symbols and welding drawings. Credit may be earned in DRF 122 or WELD 122 but not both. (30-0)

DRF 124 Blueprint Reading for Machine Tool Operators 2 Sem Hrs

Prerequisite: DRF 120. Instructs machinists, lathe operators, mill operators, and grinder operators in more in-depth treatment of working drawings, supplementary views and information, materials and processes commonly found in machining drawings. (30-0)

DRF 128 Geometric Tolerancing 2 Sem Hrs

Prerequisite: DRF 121 or permission of instructor. Emphasizes geometric symbols used in place of written notes on industrial drawings including datum, symbols, and other items tolerancing to the geometry of the part. Credit may be earned in either DRF 128 or SKDR 128 but not both. (30-0)

DRF 257 Advanced Mechanical Design 4 Sem Hrs

Prerequisites: DRF 107, DRF 128, MS 113, or permission of instructor. Focuses on individual and/or team assignments working from complex design layouts to presentation of complete sets of working drawings, including product design, piping design, welding design, and plant layout. Emphasizes the CAD/CAE system, the design process, engineering references, and use of supplier catalogs. (30-90)

DRF 290-299 Special Projects in Drafting Sem Hr

Economics

ECN 221W Principles of Macroeconomics 4 Sem Hrs

Prerequisites: READING LEVEL 2 or WRITING LEVEL 2 and one of the following: MATH LEVEL 4 or MGT 110 or SKMA 111. Studies the impact of consumer, business and government decisions on the macro economy. Includes: supply and demand analysis, measures of macroeconomic performance, money and banking, and various schools of macroeconomic thought and their policy implications. (60-0)

ECN 222W Principles of Microeconomics 4 Sem Hrs

Prerequisite: ECN 221. Studies the behavior of individual decision making units of the economy. Includes foundations of supply and demand, business behavior based on market structure, regulated business, international trade and finance, and selected current topics. (60-0)

Education

ED 200AW Exploratory Teaching (Elementary) 3 Sem Hrs

Prerequisites: ENG 111 and ENG 112 with minimum of C+ (2.3); COM 112 or COM 114 (in accordance with transfer institution requirements) with a minimum of C+ (2.3); PSY 211 and MTH 115; and a minimum of 24 credits with a cumulative 2.5 or higher GPA. Frequent consultation with an academic advisor regarding credits applicable to the transfer pre-ed program of choice is strongly urged. Provides aspiring elementary teachers with experience, study and discussion to enable them to make informed career decisions. Requires at least 90 hours of field work in an elementary school, plus at least 15 hours of seminar. Credit may be earned in ED 200A or ED 200B but not in both. (15-90)

ED 200BW Exploratory Teaching (Secondary) 3 Sem Hrs

Prerequisite: ENG 111 and ENG 112 with minimum of C+ (2.3); COM 112 or COM 114 (in accordance with transfer institution requirements) with a minimum of C+ (2.3); PSY 211; and a minimum of 24 credits with a cumulative 2.5 or higher GPA; minimum of 2 courses in planned secondary teaching major and/or minor with at least a C+ in each. Provides aspiring secondary teachers with experience, study and discussion to enable them to make informed career decisions. Requires at least 90 hours of field work in a secondary school, plus at least 15 hours of seminar. Credit may be earned in ED 200A or ED 200B but not in both. (15-90)

ED 201W Education of the Exceptional Child 3 Sem Hrs

Emphasizes the characteristics of exceptional children, including an overview of their educational needs and the approaches of various programs. (45-0)

ED 268 International Studies in Education 1-4 Sem Hrs

Involves the study of one or more aspects of the educational system of a country other than the United States including class lectures and individual consultation. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. (60-0)

ED 290-299 Special Projects in Education Sem Hr

Education For Professional Development

EDU 214 Modern Manufacturing Processes 2-4 Sem Hrs

Open to educators who have recently completed a Delta College developed internship or job-shadowing experience in a modern manufacturing environment. Seeks to develop classroom lessons, projects, and performance assessments based on educator workplace experiences and current educational standards. Provides opportunity for collaboration and includes implementation of the unit of instruction in the participant's classroom from development through construction and assessment.

EDU 220 Introduction to STEM Explorer: Surface Explorations 1 Sem Hr

Prepares 6th through 8th grade teachers for a visit from the STEM Explorer for participation in the Surface Exploration modules. Helps teachers to maximize the experience for their students by providing an opportunity for them to engage in each of the modules prior to the visit. Create lessons to prepare students for the STEM Explorer activities. Prepare follow-up lessons that tie in specific grade level performance expectations from the Next Generation Science Standards (NGSS) and the Michigan K-12 Science Standards. (15-0)

EDU 225 Introduction to STEM Explorer: Deep Dive 2 Sem Hrs

Prepares 9th through 12th grade teachers wishing to participate in the STEM Explorer Deep Dive program with their students in the upcoming school year. Teachers are introduced to the features of the STEM Explorer and how it can be used to support the Deep Dive, a Project-Based Learning experience. Teachers learn how to lead their students through the engineering process as it relates to their specific discipline(s). Teachers also learn the basics of 3D parametric solid modeling and how to guide students through the rapid prototyping process. (30-0)

EDU 230 Introduction to the Next Generation Science Standards 1 Sem Hr

Open to teachers, principals, and other K-12 school leaders in the Great Lakes Bay Region interested in becoming more familiar with the Next Generation Science Standards (NGSS). Three-Dimensional Learning, a fundamental pedagogical frame shift, demonstrated with particular emphasis on Developing and Using Models and Engaging in Argument from Evidence. Learn how to create phenomena-based lessons that follow the Performance Expectations of the NGSS. (15-0)

EDU 368W Educating for Global Participation 2 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Assists educators in various aspects of global education, including exploring the meaning of global education, developing and participating in learning abroad experiences, and discussing how educators can help students, colleagues, and members of the community become more globally educated. Credit may be earned in ED 368 or EDU 368 but not both. (30-0)

EDU 369W Educating for Global Participation with Travel 3 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Assists educators in various aspects of global education, including exploring the meaning of global education, developing and participating in learning abroad experiences, and discussing how educators can help students, colleagues, and members of the community become more globally educated. Requires participation in a learning abroad experience. Credit may be earned in ED 369 or EDU 369 but not both. (45-0)

EDU 370W Educating for Global Participation with Module 3 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Assists educators in various aspects of global education, including exploring the meaning of global education, developing and participating in learning abroad experiences, and discussing how educators can help students, colleagues, and members of the community become more globally educated. Requires class module or project. Credit may be earned in ED 370 or EDU 370 but not both. (45-0)

EDU 379W Assessment for Programs and Disciplines 1 Sem Hr

Explores the program and discipline assessment process at Delta College, while providing a forum for collaboration and development of program and discipline assessment projects. Prepares reporting assessment activities through the database, presentation to the Student Learning Assessment Committee, and sharing with the greater College community. (15-0)

EDU 384 Delta College Staff Ambassador Development 3 Sem Hrs

Provides Delta College staff with an opportunity to learn about the divisions, departments, processes, and systems at Delta College. Explores the contribution of the employee's role to the College mission, vision, and values. Credit may be earned in ED 384 or EDU 384 but not both. (45-0)

EDU 385 Leadership Culture 3 Sem Hrs

Prerequisite: ED 384 and one year Delta College employment. Prepares Delta College employees to enhance their responsibilities by understanding, developing, and demonstrating their leadership skills and abilities. Practices leadership activities in College or community. Explores the focus on worklife contributions within the learning centered organization. Credit may be earned in ED 385 or EDU 385 but not both. (45-0)

EDU 386W Communication in the Classroom 2 Sem Hrs

Prerequisite: Permission of Instructor to register. Focuses on identifying, describing, and then explaining communication between students and between students and instructor. Explores aspects of verbal and nonverbal communication such as impact of voice, facial expression, body language, body movement, and physical proximity. Includes research highlighting the impact of an instructor's communication repertoire on student success. Requires completion of a project focused on development of improved/refined communication strategies for instruction. Credit may be earned in ED 386 or EDU 386 but not both. (30-0)

EDU 387W Reflective Practice: Education for Personal and Professional Growth 2 Sem Hrs

Prerequisites: Open to all full and part-time faculty and staff and by permission of instructor. Explores, in a communal atmosphere of trust and thoughtfulness, the roles of reflection, community, and creativity in the development of meaning and purpose in the personal and professional lives of educators. Explores questions of pedagogical meaning and purpose common to educators, and connects these with practices such as reflective writing, readings in a variety of disciplines, and creativity intended as springboards for personal and classroom applications. Includes a meaningful project such as a series of self-guided readings, an introspective practice like meditation, a journal, memoir, revamped syllabus, set of classroom practices, or other appropriate self-generated project. Credit may be earned in ED 387 or EDU 387 but not both. (30-0)

EDU 388W Exploring Diversity 3 Sem Hrs

Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2. Explores themes, issues, perspectives and experiences related to diversity. Provides an opportunity to reflect and practice an interdisciplinary approach to the study of diversity in a global world. Credit may be earned in only one of the following: SSI 288W, SSI 289W, EDU 388W, EDU 389W, IHU 280W, or IHU 281W. (45-0)

EDU 389W Exploring Diversity/With Project 4 Sem Hrs

Prerequisite: READING LEVEL 2 and WRITING LEVEL 2. Explores themes, issues, perspectives and experiences related to diversity. Provides an opportunity to reflect and practice an interdisciplinary approach to the study of diversity in a global world. Credit may be earned in only one of the following: IHU 280W, IHU 281W, IHU 281HW, EDU 388W, EDU 389W, SSI 288W, SSI 289W, SSI 289HW. (60-0)

EDU 390W Best Practices in Teaching and Learning 3 Sem Hrs

Prerequisite: Instructor permission to register. Addresses topics and skills essential for effective and innovative teaching and learning practices. Explores the dynamics of teaching and learning and provides models, strategies, and options that emphasize active learning and reflective teaching. Credit may be earned in ED 390 or EDU 390 but not both. (45-0)

EDU 391W Academic Service-Learning 1 Sem Hr

Prerequisite: Open to all full and part-time faculty, community service partners, and by permission of instructor. Introduces academic service-learning pedagogy across the disciplines. Develops a service-learning community-based project focusing on course outcomes and/or general education components. Incorporates the essential elements of enhanced academic learning meaningful to the community, and heightened civic engagement; and develops a plan to access all three elements. Credit may be earned in ED 391 or EDU 391 but not both. (15-0)

EDU 392W Internet Teaching Techniques for Teachers 3 Sem Hrs

Prerequisite: Provides instructors with the essential pedagogical background to design and develop learning strategies applicable to online learning. Credit may be earned in ED 392 or EDU 392 but not both. (45-0)

EDU 392XW Advanced Internet Teaching Techniques 3 Sem Hrs

Prerequisite: EDU392 or at least one semester of teaching online or in a blended setting; or equivalent training and experience. Provides those who have had experience teaching online with an opportunity to revise one area of their online course(s) through incorporating advanced communication and media tools. Credit may be earned in ED 392X or EDU 392X but not both. (45-0)

EDU 393W Understanding Student Learning 2 Sem Hrs

Explores the process of learning and provides fuller understanding of the biological and sociocultural factors that influence human learning. Explores multiple intelligences and learning styles, neurological changes in the brain that accompany learning, cognitive development, motivation, and types of learning goals. Emphasizes the application of learning research to learning situations to encourage and enhance student learning. Credit may be earned in ED 393 or EDU 393 but not both. (30-0)

EDU 394IW Development of Learning Community Interest Groups 3 Sem Hrs

Prerequisite: Open to all full and part-time faculty with permission of instructor. Examines learning communities theories and models most closely resembling Interest Groups (often called Freshman Interest Groups and Clusters at other institutions). Discusses concepts of interdisciplinarity, community, and continuing development and evaluation of Interest Groups both individually as separate learning communities and collectively as a distinct identity. Includes participation in on-line interactive journaling about assigned and recommended readings. Develops a capstone project to plan an interest group learning community. Credit may be earned in ED 394 or EDU 394 but not both. (45-0)

EDU 394W Theory and Pedagogy of Learning Communities 2 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff. Examines (in classroom seminars and by on-line listserv) learning communities theories and models, including concepts of interdisciplinary and community. Includes participation in on-line listserv interactive journaling about course readings and a capstone project to prepare a syllabus, one or two possible assignments, and at least one means of assessment for a proposed learning community. Designed for faculty, future teachers, and administrators. Credit may be earned in ED 394 or EDU 394 but not both. (30-0)

EDU 395RW Introductory Theory and Methods of Reading Across Disciplines - Research Option 2 Sem Hrs

Prerequisite: Open to all full-time and part-time faculty or by permission of instructor. Introduces theory and practice of reading across disciplines including theories of reading development and strategies improving reading. Provides instruction and support in researching content area reading in individual disciplines. Leads to development of annotated bibliography about reading process and pedagogy in their discipline. Student may earn credit in only one of the following: ED 395R, ED 395, EDU 395R or EDU 395. (30-0)

EDU 395W Introductory Theory and Methods of Reading Across Disciplines 1 Sem Hr

Prerequisite: Open to all full-time and part-time faculty or by permission of instructor. Introduces theory and practice of reading across disciplines including theories of reading development and strategies improving reading. Student may earn credit in only one of the following: ED 395, ED 395R, EDU 395 or EDU 395R. (15-0)

EDU 396PW Facilitating Developmental Learning with project 3 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff. Explores the process of assisting students in advancing from under-prepared to college-ready. Examines instructional methods conducive to promoting, developing, and sustaining student learning and success throughout the college curriculum. Synthesizes theory with best practices applicable to a variety of disciplines and learning levels. Course includes individual project. Credit may be earned in only one of the following: ED 396P, ED 396, EDU 396P, or EDU 396. (45-0)

EDU 396W Facilitating Developmental Learning 2 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff. Explores the process of assisting students in advancing from under-prepared to college-ready. Examines instructional methods conducive to promoting, developing, and sustaining student learning and success throughout the college curriculum. Synthesizes theory with best practices applicable to a variety of disciplines and learning levels. Credit may be earned in only one of the following: ED 396P, ED 396, EDU 396P, or EDU 396. (30-0)

EDU 397 Introduction to Distance Learning 3 Sem Hrs

Prerequisites: Open to all full and part-time faculty and staff and by permission of instructor. Teaches strategies for distance education technology, with particular emphasis on instructional design, two-way interactive television (ITV), for application in any field. Credit may be earned in ED 397 or EDU 397 but not both. (45-0)

EDU 398W Writing to Learn 1 Sem Hr

Prerequisite: Open to all full and part-time faculty and by permission of instructor. Introduces theory and practice of "writing to learn," (WTL) including informal writing strategies to promote student response to lectures, readings, fieldwork, labs, discussions, etc.; rehearsal for other activities including discussions and formal writing; reflection on learning progress and problems; and dialogue with peers and instructor. Credit may be earned in ED 398 or EDU 398 but not both. (15-0)

EDU 399AW Classroom Assessment Techniques .5 Sem Hr

Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Introduces classroom assessment techniques (CATs) and their use across disciplines. Develops and applies a variety of CATs to formatively assess different types of learning and student development. Credit may be earned in ED 399AW or EDU 399AW but not both. (7.5-0)

EDU 399W Using Classroom Assessment Techniques 2 Sem Hrs

Prerequisite: Open to all full and part-time faculty and staff and by permission of instructor. Introduces classroom assessment techniques (CAT's) and their use across disciplines. Develops and applies a variety of CAT's to formatively assess different types of learning and student development. Includes investigation and development of CAT's as tools for classroom research. Credit may be earned in ED 399 or EDU 399 but not both. (30-0)

Electronic Engineering Tech

EET 120 Digital Circuits 3 Sem Hrs

Prerequisite: MTH 107 or H.S. equivalent. Studies fundamental concepts of digital electronics, including the +5 volt TTL family of integrated circuits, digital number systems, Boolean algebra, Karnaugh maps, combinational logic circuits, counters, latches, flip-flops and shift registers. Introduces basic memory concepts and circuits. (30-30)

EET 215 Electrical Controls and Automation 5 Sem Hrs

Prerequisites: EET 235 with a minimum "C" grade. Studies industrial control logic design and application with emphasis on ladder logic, relay and T-switch logic formats. Uses Modicon micro 84 to study programmable controller logic. Covers 4-layer semiconductors (SCRs-TRIACS-UJTS-PUTS-DIACS), their characteristics and applications. Studies application of electronic control systems to machine processes with emphasis on transducers, I/O interfaces, control processors and output drivers. (60-30)

EET 226 Computer Electronics 6 Sem Hrs

Prerequisite: EET 102 and EET 120. Introduces computer electronics with an emphasis on programming microcontroller computers using the C programming language. Teaches students to design projects that combine hardware and software to create applications that interface microcontrollers to other computers and to analog and digital circuits. (90-0)

EET 230 Soldering Techniques 1 Sem Hr

Develops skill in soldering and printed circuit board fabrication and repair, using commonly accepted industrial practices. Covers safety, chemical handling, contamination of work area, grounding, materials, and waste handling. Producing a functioning printed circuit assembly is required. (8-22)

EET 235 Electrical Circuits 3 Sem Hrs

Prerequisite: MTH 119 or MTH 119A or appropriate assessment scores. Studies DC and AC circuit fundamentals including a general introduction to industrial control concepts. (30-30)

EET 290-299 Special Projects in Electronic Engineering Technology

Engineering

EGR 100 Careers in Engineering 1 Sem Hr

Prerequisite: MATH LEVEL 4. Studies Engineering as a profession as well as a career. Surveys the various fields such as Mechanical, Electrical, Civil, etc. Compares an engineer with a technologist. Reviews work responsibilities, ethics, the work environment, challenges, salaries. (15-0)

EGR 101 Engineering Design and Analysis 1 Sem Hr

Prerequisite: MATH LEVEL 4. Applies critical thinking concepts to engineering problem solving strategies. Uses student work teams to solve a problem or develop a design on paper using the engineering design process. Uses research techniques on the Web or library, brainstorming for idea generation, criterion selection, and presents information in an oral and written format. (15-0)

EGR 165 Introduction to Engineering Graphics 4 Sem Hrs

Prerequisite: MATH LEVEL 4. Studies the graphic language applied to mechanical and civil engineering design. Develops skills in orthographic projection, multi-view drawings, isometric drafting, sectioning, auxiliary views, revolutions, developments, ANSI dimensioning, and tolerancing, annotation and descriptive geometry. Uses computer-aided drafting and analysis. Credit can be earned in EGR 165 or EGR 166 but not in both. (30-60)

EGR 166 Engineering Graphics 4 Sem Hrs

Prerequisite: MATH LEVEL 4 and one year of high school mechanical drafting with final grade of C (2.0) or higher. Studies the engineering graphic language applied to mechanical design, review of multiview and isometric drafting, and the geometry of drawing. Develops skills in using orthographic projections, sectional views, auxiliary views and revolutions. Applies dimensioning to gears, bearings, fasteners, cams, etc. Uses computer-aided methods in drafting and analysis for all topics studied. Credit can be earned in EGR 166 or EGR 165 but not both. (30-60)

EGR 215 Engineering Mechanics, Statics 3 Sem Hrs

Prerequisite: MTH 261 and PHY 211 both with a grade of "C" or better. Develops skill in analyzing machine elements and structures, which are in static equilibrium. Solves forces and moments in 2D and 3D problems using vector calculus, integration, and algebra/trigonometry techniques. Includes concepts of centroids and moments of inertia and applies to mechanical linkages, disks and shafts, beams in bending, screw threads, trusses, frames, and vehicles. (45-0)

EGR 216 Engineering Mechanics: Dynamics 3 Sem Hrs
Prerequisite: EGR 215. Aims at students needing a second course in mechanics for engineers. Covers kinematics and kinetics of particles and rigid bodies in 2D and 3D. Uses force/acceleration, energy and momentum methods and applications to machine elements and structures in mechanical engineering. (45-0)

EGR 221 Engineering Materials 3 Sem Hrs
Prerequisite: CHM 111 and MTH 161 or equivalents. Introduces material classification based on their structure, properties and performance in various applications. Examines the micro and macro structures of metals, polymers, glasses, ceramics and composites and their structural relationship to their properties and performance in various applications. Focuses on phase diagrams, microstructural changes caused by solid-state transformations, elastic and plastic behavior, the effects of the environment, and application selection criteria. (45-0)

EGR 235 Circuit Analysis 4 Sem Hrs
Prerequisite: MTH 161. Studies simple electrical components, rules, theorems and laws applicable to AC and DC circuits. Applies Kirchoff's laws, Thevenin's and Norton's theorems, superposition, current and voltage divider rules, etc., Introduces circuit design techniques further study in transient circuits and three-phase power systems. (45-30)

EGR 290-299 Special Projects in Engineering 1 Sem Hr

EGR 320 Mechanics of Materials 3 Sem Hrs
Prerequisite: EGR 215. Considers effects of tension and compression, shear, torsion, bending and buckling loads on structures and machine members and their consequent effects on stress distributions and deformations. Emphasizes design as well as analysis. (45-0)

Electronic Media

EM 180 Digital Cinematography for Film 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 3. Provides basic knowledge of the visual aesthetics of long and short narrative film through film study and hands-on operation of camera and lighting equipment. Introduces concepts such as storyboarding, shot lists, filming and post-production processes using basic editing and color grading techniques. Provides hands-on experience with video equipment and associated accessories to tell a story visually. (20-40)

EM 280 Digital Film Capstone 3 Sem Hrs
Prerequisites: EMB 155 & ENG 258 with a grade of "C" or better. Provides experience in designing and producing digital short and/or partial feature films as part of production teams. Identifies, through teamwork, the specific production and postproduction needs for the projects and evaluates the clarity and quality of the writing, production design, and overall digital film product generated. (15-45)

EM 290-299 Special Projects in Electronic Media

Electronic Media Broadcasting

EMB 131 Visual Graphic Presentation Applications 2 Sem Hrs
Introduces and explains a variety of traditional and online visual graphic presentation applications for effective visual communication tools. Concentrates primarily on graphic design basics, organizational techniques, digital media preparation, and presentation software that supports and enhances visual communication. (15-30)

EMB 140 Electronic Media History 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Concentrates primarily on Broadcasting History, its roots and parentage. Compares relationships between past issues and personalities with those of today. Answers the question: Where do we come from and where are we going as a profession? (45-0)

EMB 141W Fundamentals of Audio Production 2 Sem Hrs
Introduces basic audio production methods and equipment, including non-linear editors, microphones, recorders and supporting hardware. Emphasizes developing comprehension of communication using aural mediums, and the variety of media types and formats available. Introduces the basic production skills necessary for developing audio projects. Uses radio labs and equipment to instruct students in basic elements of audio acquisitions, editing, and production. (15-30)

EMB 151 Media Production I 3 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Introduces basic video production methods and equipment, including non-linear editors, video cameras and supporting hardware. Emphasizes developing comprehension of communication using visual and aural mediums, and the variety of media types and formats available. Introduces the basic production skills necessary for developing media projects. Uses Television Labs, Studios and equipment to instruct students in basic elements of video and audio acquisition and production. (40-20)

EMB 152 Studio Productions 2 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Introduces basic television studio production methods and equipment, video cameras, switchers, audio boards, lighting and related hardware. Emphasizes developing comprehension of communication using visual and aural mediums through hands-on learning in professional studio environments. Introduces the basic production skills necessary for developing media projects. Uses television labs and studios to instruct students in basic elements in video and audio acquisition and studio production. (20-40)

EMB 153 Broadcast Performance 3 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Introduces students to broadcast performance. Emphasizes presentations before microphones and cameras. Examines dress, movement, make-up, lighting, and delivery in such major performance situations as interviews, discussions, newscasts, commercials, and product demonstrations. (30-30)

EMB 154 Peripheral Multimedia Applications 2 Sem Hrs
Introduces and familiarizes student with operational elements of digital media, computer operating systems/platforms and peripheral multimedia applications which support and enhance digital non-linear video editing. Concentrates primarily on audio soundtracks, animated text, graphic design and proper compression for delivery to a variety of digital mediums. Emphasizes specific programs within the Macintosh OSX system. (15-30)

EMB 155 Media Production II 4 Sem Hrs
Prerequisites: EMB 151 with minimum grade of "C" (2.0). Builds on the body of knowledge gained in EMB151. Expands the knowledge and skill in composition of images and media, and integration of that media into finished productions. Introduces digital multimedia production, specifically Macintosh Computer systems and Final Cut Pro non-linear editors. Uses both studio and computer editing facilities to refine both audio and video production skills to develop and execute productions. Uses Television, Radio, and computer labs. (45-45)

EMB 161 Podcasting, Online, and Mobile Media 2 Sem Hrs
Introduces and familiarizes student with basic elements and theories of alternative/online forms of multimedia delivery, including audio and video podcasting, mobile media devices, media enhanced blogging and media delivery through video sharing and social networking sites such as YouTube and Facebook. (15-30)

EMB 164 Digital Imaging for Video Editors 2 Sem Hrs
Prerequisites: EMB 154 with a minimum grade of C. Promotes fundamental digital imaging techniques and concepts in the preparation and development of computer graphic images specifically for video editing purposes. Concentrates on an understanding of the components of digital images, nondestructive editing tools, text and graphic preparation, image repair, color correction, and background creation to support completed video projects. Course will primarily utilize most current professional digital imaging applications. (15-30)

EMB 175W Genres in Film History 3 Sem Hrs
Examines major film styles and genres prevalent through the history of American cinema. Discusses groundbreaking works and popular film styles and analyzes their production values, editing techniques and influences on later films and other media. Researches individual directors and films and presents written critical analysis of technical and influential contributions to filmmaking. (45-0)

EMB 211W Writing for Broadcast & New Media 3 Sem Hrs
Prerequisites: READING LEVEL 3 and ENG 111. Introduces and familiarizes the specialized writing styles in radio, TV, cable, new media and corporate/non-profit production. Includes, but is not limited to, news, promotional announcements, sports and advertisements. Emphasizes and analyzes various writing styles employed in the commercial, non-profit and corporate world and demonstrates that style through frequent writing. (45-0)

EMB 227 Broadcast Sales 3 Sem Hrs
Prerequisites: READING LEVEL 3 and ENG 111. Explores basic marketing concepts in broadcast time and spot sales. Analyzes the psychological, sociological, economic, and communicative aspects of salesmanship as they apply to the broadcast industry. Prepares actual sales presentations for hypothetical clients. Brings practicing professionals in the broadcast sales field to share their experiences with the class. (45-0)

EMB 229W Women, Minorities, and the Media 3 Sem Hrs
Prerequisites: Any College Composition I course or higher with a grade of "C" or higher. Examines the depiction of women and minorities in the mass media in contexts including television, film, print, and the Web. Studies media portrayal, employment, ownership, and access. Explores the individual and societal consequences of media representation. (45-0)

EMB 252 Studio Productions II 2 Sem Hrs
Prerequisites: EMB 152 with a grade of "C" or better. Promotes advanced level skills in professional television studio production method operations and equipment, switchers, lighting and related hardware with emphasis on communication utilizing visual and aural mediums. Concentrates primarily upon accelerated lighting and switching techniques, producer procedures and practices, director techniques and responsibilities, and the live broadcast of a scheduled production. (15-30)

EMB 255W Media Production III 4 Sem Hrs
Prerequisites: EMB 152 and EMB 153. Also EMB 155 with "C" (2.0) minimum grade. Refines and utilizes skills gained in Media Production I and II with further instruction to produce and direct finished multimedia productions. Emphasizes producing and directing skills to maximize effectiveness. Produces and directs multimedia productions, including audio and video components, with specific outcomes for specific uses and audiences. Uses Television Studio and Computer labs. (60-30)

EMB 277 EMB Portfolio 2 Sem Hrs
Prerequisite: EMB 155 with a grade of "C" or higher. Creates digital media portfolios of original work and traditional resume materials for delivery via DVD, Web, and social media. (10-20)

EMB 279 Advanced Post Production 3 Sem Hrs
Prerequisites: EMB 155 with "C" (2.0) minimum grade or EMB Program Coordinator approval. Builds on the body of knowledge gained in EMB 155. Expands the student's knowledge and skill in non-linear video editing. Introduces advanced digital multimedia compositing and editing techniques and industry standard technologies, such as Apple's Final Cut Pro, Motion, and Adobe After Effects, while providing an overview of the artistic nature of digital compositing. Students will complete a variety of advanced, individual digital video and compositing projects. (30-30)

EMB 281 Electronic Media Broadcasting Internship I 1 Sem Hr
Prerequisites: EMB 151 with "C" (2.0) minimum grade and instructor approval. Provides advanced hands-on experience through internship with approved off-site electronic media company or organization. Requires 5 hours per week under direct supervision of onsite internship coordinator. (0-75)

EMB 282 Electronic Media Broadcasting Internship II 2 Sem Hrs
Prerequisites: EMB 151 with "C" (2.0) minimum grade and instructor approval. Provides advanced hands-on experience through internship with approved off-site electronic media company or organization. Requires 10 hours per week under direct supervision of onsite internship coordinator. (0-150)

EMB 283 Electronic Media Broadcasting Internship III 3 Sem Hrs
Prerequisites: EMB 151 with C (2.0) minimum grade and instructor approval. Provides advanced hands-on experience through internship with approved off-site electronic media company or organization. Requires 15 hours per week under direct supervision of onsite internship coordinator. (0-225)

EMB 284 Producing for Public Broadcasting TV 2 Sem Hrs
Prerequisites: EMB 151 with minimum grade of "C" (2.0) and discipline approval. Provides advanced, practical experience through Delta College's Public Broadcasting facilities. Gives opportunities to produce and assist with productions of on-air broadcast programs. (30-15)

EMB 285 Directing for Public Broadcasting TV 2 Sem Hrs
Prerequisites: EMB 151, EMB 284 both with "C" (2.0) minimum grade, and discipline approval. Provides advanced, practical experience through Delta College's Public Broadcasting facilities. Gives opportunities to direct and assist with productions of on-air broadcast programs. (30-15)

EMB 290-299 Special Projects in Electronic Media Broadcasting

Emergency Medical Service

EMS 110 Basic Emergency Medical Technician I 4 Sem Hrs
Prerequisite: READING LEVEL 2. Requires concurrent enrollment in EMS 111, 112 and 113, and instructor's permission. First in a sequence of four courses to prepare a student as a Basic EMT. Emphasis is placed on Emergency Medical Care, Medical/Legal/Ethical issues, didactic material including airway management, Patient Assessment, and general pharmacology. To successfully pass this course, the student will be required to successfully complete the national registry exam and obtain a state license. Fees for this exam and license are the responsibility of the student. (65-0)

EMS 111 Basic Emergency Medical Technician II 4 Sem Hrs

Requires concurrent enrollment in EMS 110, 112 and 113, and instructor's permission. Second in a sequence of four courses to a prepare student as a Basic EMT. Emphasis is placed on recognition and management of environmental and medical emergencies; verbal, written and radio communications; triage, emergency childbirth; and pediatric emergencies. To successfully pass this course, the student will be required to successfully complete the national registry exam and obtain a state license. Fees for this exam and license are the responsibility of the student. (65-0)

EMS 112 Basic Emergency Medical Technician III 2 Sem Hrs

Requires concurrent enrollment in EMS 110, 111 and 113 and instructor's permission. Third in a sequence of four courses to prepare a student as a Basic EMT. Emphasizes bandaging, splinting, backboarding concerning injuries to the head & spine as well as musculoskeletal systems. To successfully pass this course, the student will be required to successfully complete the national registry exam and obtain a state license. Fees for this exam and license are the responsibility of the student. (32-0)

EMS 113 Basic Emergency Medical Technician Field Experience 2 Sem Hrs

Requires concurrent enrollment in EMS 110, 111 and 112 and instructor's permission. Fourth in a sequence of four courses to prepare a student as a Basic EMT. Requires Clinical rotation for EMT (hospital & ambulance). Successful completion of this course and EMS110, EMS111 and EMS112 enables the student to apply for and take the National Registry exam to qualify for state licensing as a Basic EMT. To successfully pass this course, the student will be required to successfully complete the National Registry exam and obtain a state license. Fees for this exam and license are the responsibility of the student. (0-32)

EMS 290-299 Special Projects in Emergency Medical Service

English

ENG 104W Applied Spelling Techniques 2 Sem Hrs

Emphasizes English spelling patterns and sequences as well as techniques for approaching spelling for adult learners. Shows students how to apply critical thinking strategies to identify and meet their individual spelling needs. (30-0)

ENG 105W English as a Second Language 5 Sem Hrs

Aids the speaker of English as a second language with intermediate and advanced English language skills to communicate in academic and social settings. Includes speaking, listening, reading, composition, non-verbal communication and American culture. (75-0)

ENG 107W Elements of Grammar 2 Sem Hrs

Acquaints or refreshes students with useful, basic grammatical concepts and options in written language. Includes illustration and practice of sentence structure, usage, and punctuation. Strengthens writing skill and language awareness in college or in the work force. (30-0)

ENG 111 College Composition I 3 Sem Hrs

Prerequisite: READING LEVEL 4 and WRITING LEVEL 4. Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas; shaping and evaluating writing. Uses reading and language awareness to further the development of writing. Credit may be earned in only one of: ENG 111, ENG 111A, ENG 111B, ENG 111C or ENG 111H. (45-0)

ENG 111A Writing Methods/College Composition I 3 Sem Hrs

Prerequisite: READING LEVEL 2 and WRITING LEVEL 3. Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas; shaping and evaluating writing. Uses reading and language awareness to further the development of their writing. This course will transfer to universities and partially fulfill the college's English composition requirement. Credit may be earned in only one of ENG 111, ENG 111A, ENG 111B, ENG 111C or ENG 111H. (45-30)

ENG 111B College Composition I 3 Sem Hrs

Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas; shaping and evaluating writing. Uses reading and language awareness to further the development of writing. ENG 111B is intended to only be taken in a learning community combination. Credit may be earned in only one of: ENG 111, ENG 111A, ENG 111B, ENG 111C or ENG 111H. (45-15)

ENG 111C Writing Methods/College Composition I 3 Sem Hrs

Prerequisite: READING LEVEL 2 and WRITING LEVEL 3. Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas; shaping and evaluating writing. Uses reading and language awareness to further the development of writing. This course will transfer to universities and partially fulfill the college's English composition requirement. ENG 111C is intended to only be taken in a learning community combination. Credit may be earned in only one of: ENG 111, ENG 111A, ENG 111B, ENG 111C or ENG 111H. (45-30)

ENG 111H College Composition I - Honors 3 Sem Hrs

Prerequisite: READING LEVEL 4 and WRITING LEVEL 4 or permission of the Honors Office. Develops fluent, effective, and confident writers. Practices the process of composing; generating ideas; shaping and evaluating writing. Uses reading and language awareness to further the development of writing. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only ENG 111 or ENG 111A or ENG 111B or ENG 111C or ENG 111H. (45-0)

ENG 112 College Composition II 3 Sem Hrs

Prerequisite: READING LEVEL 3 and a "C" grade or better in any approved college level composition I course. Expands abilities and versatility in reading, language awareness, and composing for a range of purposes, audiences, and situations, including academic research writing. Credit may be earned in only one of ENG 112 or ENG 112A or ENG 112H. (45-0)

ENG 112A Writing Methods/College Composition II 3 Sem Hrs

Prerequisite: READING LEVEL 3 and a "C" grade or better in any approved college level composition I course. Expands abilities and versatility in reading, language awareness, and composing for a range of purposes, audiences, and situations, including academic research writing. This course will transfer to universities and partially fulfill the college's English composition requirement. Credit may be earned in only one of ENG 112 or ENG 112A or ENG 112H. (45-30)

ENG 112H College Composition II - Honors 3 Sem Hrs

Prerequisite: READING LEVEL 4, WRITING LEVEL 4 and a "C" grade or better in any approved college level composition I course or permission of the Honors Office. Expands students' abilities and versatility in reading, language awareness, and composing for a range of purposes, audiences, and situations, including academic research writing. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of ENG 112 or ENG 112A or ENG 112H. (45-0)

ENG 113 Technical Communication 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course. Covers techniques for presentation of technical material in formal and informal written reports, letters and other current forms of business and technical communication. Emphasizes general principles used for successful written communication experiences in the professional world and the development of thinking and organizational skills, with specific applications to technical courses or professional case studies. Credit may be earned in only one of: ENG 113, ENG 113A or ENG 113B. (45-0)

ENG 115 Mass Media 3 Sem Hrs
Surveys books, newspapers, magazines, recordings, film, radio, television, advertising, public relations and electronics. Includes media history operations, products, current issues and criticisms (45-0)

ENG 116 News Writing 3 Sem Hrs
Prerequisite: ENG 115 or permission of instructor. Studies fundamental principles of gathering information and writing basic news stories. Emphasizes the elements of news, the lead, Associated Press style, news sources and structures of news stories. (30-30)

ENG 120 Introduction to Creative Writing 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course. Begins the exploration of personal writing, fiction, drama, and poetry. Focuses on understanding the basics of each genre and practicing them. Includes peer critique, instructor comments, and extensive revisions. (45-0)

ENG 195W Library Research Skills 2 Sem Hrs
Develops information literacy for success with college-level academic research. Credit may be earned in LIB 195W or ENG 195W but not in both. (30-0)

ENG 201HW Honors Colloquy 3 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 4 or permission of the Honors Office. Required of all Honors students. Explores the elements of critical and creative thinking. Emphasizes relationships among thinking, writing, and productive interaction with others, as well as the interdisciplinary nature of truth and knowledge. Includes project and/or research writing at instructor's discretion. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of: ENG 201HW, ENG 201H, or IHU 201H. (45-0)

ENG 205 English Internship I 1 Sem Hr
Prerequisite: ENG 116 with a "C" (2.0) minimum grade and discipline approval. Provides advanced hands-on experience through internship with approved off-site employer or organization with multimedia opportunities. Requires 5 hours per week under direct supervision of on-site internship coordinator. (0-75)

ENG 210 English Internship II 2 Sem Hrs
Prerequisite: ENG 116 with a "C" (2.0) minimum grade and discipline approval. Provides advanced hands-on experience through internship with approved off-site employer or organization with multimedia opportunities. Requires 10 hours per week under direct supervision of on-site internship coordinator. (0-150)

ENG 211 Advanced Composition 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or ENG 113 or permission of instructor. Continues to practice forms of academic writing such as the summary, report based upon research, and the analytical essay. Emphasizes writing process and examines the origins and purpose of academic discourse. Approaches may include workshops, conferencing, publication and word processing at the discretion of the instructor. (45-0)

ENG 211H Advanced Composition 3 Sem Hrs
Prerequisite: READING LEVEL 4, WRITING LEVEL 4 and "C" grade or better in a college level composition II course or permission of Honors Program Office. Continues to practice forms of academic writing such as the summary, report based upon research, and the analytical essay. Emphasizes writing process and examines the origins and purpose of academic discourse. Approaches may include workshop, conferencing, publication and word processing at the discretion of the instructor. (45-0)

ENG 213 Advanced Technical Communication 3 Sem Hrs
Prerequisite: ENG 112 or ENG 113 with a "C" (2.0) or better. Provides experience in the written and oral presentation of technical material. Includes practice in professional formal and informal written reports, research in technical, scientific, or medical topics. Strengthens skills in professional level writing style and applications. Practices online research, document production, and technology application. (45-0)

ENG 214 Introduction to Professional Writing 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor. Introduces students to genres unique to professional writers, such as review writing, grant writing, freelance writing, and magazine writing, and will highlight issues of marketability. (45-0)

ENG 216W New Media Writing 3 Sem Hrs
Prerequisite: A college level composition I course with a "C" grade or better or permission of instructor. Focuses on creating multimedia texts and creatively and appropriately remediating print texts for interactive electronic environments, identifying and selecting the most appropriate media for a given purpose, and writing critically and knowledgeably about issues and questions raised by digital culture. (45-0)

ENG 217 Advanced Reporting 3 Sem Hrs
Prerequisite: ENG 116. Focuses on advanced journalistic techniques and news gathering methods, handling specialized assignments in government, crime, courts, sports, business and education plus editorial columns and entertainment reviews. Class members work on The Delta Collegiate. (30-30)

ENG 219W Literary Analysis 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Surveys and practices methods of literary interpretation and appreciation, from the close reading strategies of New Criticism to the contemporary considerations of reader-response theory. Interpretive papers on particular works of fiction, poetry and drama are required. Credit may be earned in ENG 219W or LIT 219W but not both. (45-0)

ENG 220W Readings in Poetry 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Studies the background, developments, and the current state of modern poetry. Emphasizes poetry by American and British authors. Credit may be earned in ENG 220W or LIT 220W but not both. (45-0)

ENG 221W Readings in the Short Story 3 Sem Hrs
Prerequisites: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Includes reading selected short stories of British, American, and other authors. Increases understanding of this relatively modern form, and explores ways in which the short story is personally meaningful in depicting our perception of ourselves and the world in which we live. Credit may be earned in ENG 221W or LIT 221W but not both. (45-0)

ENG 222W Readings in the Novel 3 Sem Hrs
Prerequisites: READING LEVEL 3 and a college level Composition I course with a minimum grade of "C." Develops an understanding of the novel form by reading selected novels. Derives personal meaning and satisfaction from novels from different times, places, and cultures. Credit may be earned in ENG 222W or LIT 222W but not both. (45-0)

ENG 223W Readings in Drama 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Studies historical and popular American, British, and other plays. Examines the effects of drama on both American, British and other cultures. Credit may be earned in ENG 223W or LIT 223W but not both. (45-0)

ENG 224HW Thematic Approaches to Literature-Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4, WRITING LEVEL 4 and any approved College Composition I course with a minimum grade of C, or permission of the Honors Office. Examines a body of literature organized by the selection of material either from the works of one author, genre, or topic, or a combination thereof (e.g. science fiction, war novel, thrillers, horror, etc.). Course content to be announced each semester prior to registration. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of ENG 224HW, ENG 224W, LIT 224HW, or LIT 224W. (45-0)

ENG 224W Thematic Approaches to Literature 3 Sem Hrs
Prerequisites: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Examines a body of literature organized by the selection of material either from the works of one author, genre, or topic, or a combination thereof (e.g. science fiction, war novel, thrillers, horror, etc.). Course content to be announced each semester prior to registration. Credit may be earned in only one of ENG 224W, ENG 224HW, LIT 224W or LIT 224HW. (45-0)

ENG 226W Introduction to Film 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Follows the creation of a film from the original idea to final production. Examines film as a mode of popular entertainment and as an art form. Focuses on identifying the media's components and developing the viewers' standards of appreciation. Credit may be earned in only one of ENG 226W, IHU 226W, or LIT 226W. (45-0)

ENG 227CW The American Motion Picture 3 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 2. Concurrent enrollment in ENG 111 or ENG 112 in a coordinated learning community. Studies popular films, with major emphasis on American culture as reflected in the motion picture. Examines the effect of the images portrayed in motion pictures on the perception of American society and history; topics vary from semester to semester. Credit may be earned in only one of: LIT 227CW, LIT 227W, ENG 227CW, or ENG 227W. (45-0)

ENG 227W The American Motion Picture 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Studies popular films, with major emphasis on American culture as reflected in the motion picture. Examines the effect of the images portrayed in motion pictures on the perception of American society and history; topics vary from semester to semester. Credit may be earned in only one of: ENG 227W, ENG 227CW, LIT 227W, LIT 227CW. (45-0)

ENG 228HW Masterpieces of World Literature: Beginning through 1600s - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4, WRITING LEVEL 4 and any approved College Composition I course with a minimum grade of "C", or permission of the Honors Office. Surveys world literature through 1600 that includes, but is not necessarily limited to, the masterpieces of the Western tradition. Concentrates on recurring themes, such as a person's relationship to God and nature, individual and social morality, liberty and responsibility, social and economic justice, and the search for a meaningful existence. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of: ENG 228HW, ENG 228W, LIT 228HW, or LIT 228W. (45-0)

ENG 228W Masterpieces of World Literature: Beginning through 1600s 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Surveys world literature through 1600 that includes, but is not necessarily limited to, the masterpieces of the Western tradition. Concentrates on recurring themes, such as a person's relationship to God and nature, individual and social morality, liberty and responsibility, social and economic justice, and the search for a meaningful existence. Credit may be earned in only one of: ENG 228W, ENG 228HW, LIT 228W, or LIT 228HW. (45-0)

ENG 229HW Masterpieces of World Literature: 1600s to the Present - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4, WRITING LEVEL 4 and any approved College Composition I course with a minimum grade of "C", or permission of the Honors Office. Surveys world literature from the 1600s to the present including but not necessarily limited to the masterpieces of the Western tradition. Concentrates on recurring themes, such as a person's relationship to God and nature, individual and social morality, liberty and responsibility, social and economic justice, and the search for a meaningful existence. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of: ENG 229HW, ENG 229W, LIT 229HW, or LIT 229W. (45-0)

ENG 229W Masterpieces of World Literature: 1600s to the Present 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Surveys world literature from the 1600s to the present including but not necessarily limited to the masterpieces of the Western tradition. Concentrates on recurring themes, such as a person's relationship to God and nature, individual and social morality, liberty and responsibility, social and economic justice, and the search for a meaningful existence. Credit may only be earned in one of: ENG 229W, ENG 229HW, LIT 229W, or LIT 229HW. (45-0)

ENG 230 English Internship III 3 Sem Hrs
Prerequisite: ENG 116 with a "C" (2.0) minimum grade and discipline approval. Provides advanced hands-on experience through internship with approved off-site employer or organization with multimedia opportunities. Requires 15 hours per week under direct supervision of on-site internship coordinator. (0-225)

ENG 232W Readings in Modern Non-Fiction 3 Sem Hrs
Prerequisite: Any approved College Composition I course with a minimum grade of "C". Studies selected modern (post-1945) and contemporary non-fiction works in order to understand the variety of forms and expression which are possible. Concentrates on themes and topics which are a recurring part of the human condition. Credit may be earned in ENG 232W or LIT 230W but not both. (45-0)

ENG 233 Poetry in Performance 3 Sem Hrs
Prerequisite: Writing Level 2. Includes Spoken Word and Visual Poetry. Develops performance poetry writing skills and understanding. Includes discussions, writing assignments, and other classroom activities. Requires analysis of published performance poetry and criticism. (45-0)

ENG 241W Introduction to Mythology 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Provides an introduction to some of the concepts in art and literature in particular. Considers the functions of mythology, the universality of the journey pattern in all myths, the nature of mythic imagery, the distinction between mythos and logos as patterns in thinking, the approaches available in examining particular myths and the application of all these dimensions in reading a given story. Credit may be earned in ENG 241W or LIT 241W but not both. (45-0)

ENG 242W Introduction to British Literature 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Provides a sampling of the work of some of the major authors in British Literature. Requires works to be read and examined for an understanding of the material, an appreciation of the literary forms and for the awareness of understanding of the material, and appreciation of the literary forms and for the awareness of unifying themes that hold together a culture's conceptual framework. Enhances reading skills and aesthetic appreciation through exposure, discussion, writing and critical thinking. Credit may be earned in ENG 242W or LIT 242W but not both. (45-0)

ENG 245W Biblical Literature: Old Testament 3 Sem Hrs
Studies critically the literature of the Old Testament. Examines the Old Testament canon in its historical development. Also examines both the literary styles and changing theological and ethical ideas. Credit may be earned in only one of: ENG 245W, LIT 245W or IHU 245W. (45-0)

ENG 246W Biblical Literature: New Testament 3 Sem Hrs
A critical study of the literature of the New Testament with some attention given to the Inter-Testamental literature. The literature will be studied in terms of its historical development. Some attention will be given to the canonization of the New Testament, to the different literary styles and to the theological and ethical ideas. (45-0)

ENG 247 Creative Writing: Young Adult Fiction 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course. Builds on previous writing experience to write original works of fiction aimed at the Children's and Young Adult reading market. Reads and analyzes works in the YA genre. Uses peer workshop, peer comments, instructor critiques, and written feedback for revision of student writing. (45-0)

ENG 250W Literature for Preschool Children 3 Sem Hrs
Surveys quality fiction and nonfiction trade books for preschool children, with emphasis on top writers and illustrators of the best, most engaging literature. Increases awareness of how literature speaks to young children and engages them in language and learning experiences. Credit may be earned in ENG 250W or LIT 253W but not both. (45-0)

ENG 251W Children's Literature 4 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Surveys literature for children in the elementary grades. Explores quality trade books for children; presents respected writers and illustrators in various genres. Dispels commonly misconceived and generic thinking about children's literature, replacing with more perceptive criteria and reflective judgment of book selection. Results in greater knowledge, understanding, and appreciation of children's literature. Credit may be earned in ENG 251W or LIT 251W but not both. (60-0)

ENG 252W Young Adult Literature 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Explores literature written for and about young adults, defined as those students in middle or junior high and high school. Surveys quality trade books, with emphasis on top writers of the best, most engaging literature. Increases awareness of how literature speaks to young adults and engages them in language and learning experiences. Appropriate for general students of literature and those planning to enter careers in secondary education, sociology, psychology, and juvenile justice. Credit may be earned in ENG 252W or LIT 252W but not both. (45-0)

ENG 253 Creative Writing: Poetry 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. A course in the writing of poetry. Students are encouraged to develop their own poetry writing skills and understanding. In addition to other classroom activities, there are discussions and writing assignments. The instructor may also choose to require analysis of published poetry and criticism. (45-0)

ENG 254 Creative Writing: Fiction 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course. Focuses on the writing of fiction--chiefly short stories. Develops understanding of fiction and personal fiction writing abilities. Completes other classroom activities, discussions and writing assignments, requiring analysis and criticisms of other students' work. (45-0)

ENG 256 Creative Non-Fiction 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition II course or permission of instructor. Requires students to draw on personal experiences and viewpoints to produce a range of writing, and read and respond to published works of creative nonfiction. Includes reading memoirs, autobiographies, journals, essays, and other subjective literary forms. Emphasizes both generating and revising writing. (45-0)

ENG 257 Advanced Creative Writing 3 Sem Hrs
Prerequisites: ENG 253, ENG 254, or ENG 256. Uses previous background in creative non-fiction, fiction, poetry or screenwriting. Includes work on style, voice, tone, vision, and other nuances in chosen genre. Includes peer critique, instructor comments, and extensive revision. (45-0)

ENG 258W Introduction to Screenwriting 2 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course or permission of instructor. Begins the exploration of screenwriting. Focuses on understanding the basics of the genre, especially formatting and movie planning. Includes peer critique, instructor comments, and extensive revision. (30-0)

ENG 259W Advanced Screenwriting 3 Sem Hrs
Prerequisite: ENG 258W. Builds from skills learned in ENG 258W. Explores character, plot, and dialogue development as they relate to screenwriting. Focuses on the completion of a short film screenplay or first thirty pages of a longer work. Includes peer critique, instructor comments, and extensive revision. (45-0)

ENG 260W Writing Center Practicum 1 Sem Hr
Prerequisite: A "C" grade or better in a college level composition I course or permission of instructor. Presents the theory and principles behind being a peer writing tutor. Requires application of knowledge through tutoring actual students in the Writing Center. (3-12)

ENG 262W Holocaust History and Literature 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of "C". Introduces Holocaust studies. Covers the years 1933 to 1945, focusing on the role of perpetrators, victims, bystanders, and those involved in resistance and rescue. Uses a variety of literature that assesses how did the Holocaust happen? Who is responsible? What can we learn from this catastrophe? Credit may be earned in ENG 262W or LIT 260W but not both. (45-0)

ENG 268W International Studies in Literature 1-4 Sem Hrs
The student will do an in-depth study in one or more aspects of the literature or film of a country other than the United States. Includes class lectures and individual consultation. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. Credit may be earned in ENG 268 or LIT 268 but not both. (60-0)

ENG 269W Native North American Literature 3 Sem Hrs
Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Surveys the literature of Native North Americans: poetry, short stories, novels, and non-fiction, including biographies of important Indian leaders. Develops an understanding of the cultures which produced the literature. Credit may be earned in ENG 269W or LIT 269W but not both. (45-0)

ENG 271HW American Literature to 1865 - Honors**3 Sem Hrs**

Prerequisite: READING LEVEL 4, WRITING LEVEL 4 and any approved College Composition I course with a minimum grade of C, or permission of the Honors Office. Studies major movements and themes in American literature as they appear in the works of important authors from the Puritan period to and including the Age of Romanticism. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of: ENG 271HW, ENG 271W, LIT 271HW, or LIT 271W. (45-0)

ENG 271W American Literature to 1865**3 Sem Hrs**

Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Studies major movements and themes in American literature as they appear in the works of important authors from the Puritan period to and including the Age of Romanticism. Credit may be earned in only one of: ENG 271HW, ENG 271W, LIT 271HW or LIT 271W. (45-0)

ENG 272W American Literature Since 1865**3 Sem Hrs**

Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Studies major movements and themes in American Literature after the age of Romanticism through the Age of Realism and New Directions. Credit may be earned in only one of: ENG 272W, LIT 272W, or LIT 272AW. (45-0)

ENG 274W Mexican-American Literature**3 Sem Hrs**

Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Studies novels, short stories, poetry and non-fiction by Mexican-Americans. Explores some cultural elements such as ethnicity, selfhood, self-definition, machismo and gender issues, religious influences, the tradition of curanderos and la llorona. Constructs an understanding of how culture (can) affect creative expression. Credit may be earned ENG 274W or LIT 274W but not both. (45-0)

ENG 276W Contemporary American Fiction (1945 to Present)**3 Sem Hrs**

Prerequisites: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Studies trends, techniques, and themes in recent American novels and short stories. Requires reading, analyzing, and critiquing works of modern writers. Credit may be earned in ENG 276W or LIT 276W, but not both. (45-0)

ENG 277W Early African-American Literature**3 Sem Hrs**

Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Studies American history and trends that affected African-American writers from the oral tradition to the written works. Credit may be earned in ENG 277W or LIT 277W but not both. (45-0)

ENG 278W Modern African-American Literature**3 Sem Hrs**

Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Studies current trends in both cultural and historical contexts. Examines the ways in which Modern African-American Literature is influenced by American history and how it affects the lives of African-Americans. Credit may be earned in ENG 278W or LIT 278W but not both. (45-0)

ENG 283W Literature of Mysticism**3 Sem Hrs**

Prerequisite: READING LEVEL 3 and any approved College Composition I course with a minimum grade of C. Explores literature about mysticism, both secular and religious. Begin an inner search for authenticity, personal integration and self-awareness. Provides a variety of possibilities for developing innate potentialities and for achieving altered states of consciousness through awareness exercises, meditation, chanting, fantasy journeys and journal writing. Credit may be earned in ENG 283W or LIT 283W but not both. (45-0)

ENG 285W Women in Literature**3 Sem Hrs**

Discusses women as literary characters and as authors in time periods and cultures selected by instructor. Concentrates on women's perceptions of social structures, the blending of private and public spheres, and women's relationships to the world of publishing and literary criticism. Contrasts a woman-centered look at literature with more traditional, canonical approach to literature. Credit may be earned in ENG 285W or LIT 285W but not both. (45-0)

ENG 290-299 Special Projects in English**Sem Hr****Entrepreneurship****ENT 131W Entrepreneurship/Small Business Management I****3 Sem Hrs**

Provides overview of small business and what is necessary to start a small business including small business in free enterprise, the entrepreneur, opportunities and trends, business plan, legal aspects, location, financing, organizational planning, and marketing. Assists those who are currently operating a small business. Uses case studies throughout the course. Credit may be earned in only one of the following courses: ENT 131, GB 131, or MGT 131. (45-0)

ENT 231W Entrepreneurship/Small Business Management II**3 Sem Hrs**

Prerequisite: ENT 131; and ACC 121 (or ACC 211 with instructor permission). Must also enroll in MGT 243. Strengthens the entrepreneurial and management skills of those who are already in (or who may enter) business for themselves. Uses small business case studies extensively. Credit may be earned in only one of the following courses: ENT 231W, ENT 132, GB 132, or MGT 132. (45-0)

ENT 290-299 Special Projects in Entrepreneurship**Environmental Science****ENV 100W Environmental Regulations****3 Sem Hrs**

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Presents an overview of the regulations that are related to environmental protection, including OSHA regulations, Clean Air Act, SARA, RCRA and similar regulations. Provides an awareness of why the regulations exist, how they are enforced, penalties for noncompliance, and practical experience in interpretation of the regulations. (Cannot be counted toward Natural Science credit.) (45-0)

ENV 105 Introduction To Environmental Health & Safety**3 Sem Hrs**

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Introduces students to the safety requirements and regulations needed to successfully direct a safety program on an industrial site. (45-0)

ENV 130W Pollution Prevention**1 Sem Hr**

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides a study of protecting the environment, reducing waste generation, environmental compliance, preventing future liability associated with non-compliance and improper disposal of hazardous wastes, and improving profitability of an operation through pollution prevention techniques and practices. (15-0)

ENV 151W HAZWOPER Training**2.7 Sem Hrs**

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Involves hands-on training in the use of personal protective equipment, monitoring and sampling techniques, and decontamination techniques relative to hazardous materials in the workplace. Emphasizes rationale for following specific procedures, evaluations, relative merits of equipment and materials used. Establishes criteria for evaluation of field experience. Meets requirements of 40 hour HAZWOPER training. May be offered through Delta College Corporate Services or credit by prior experience as reviewed by the Science Division. (Cannot be counted toward Natural Science credit.) (40-0)

ENV 152 Emergency Response to Industrial Spills 1.6 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides mandated training (24 hours) for emergency response to industrial spills, including use of protective equipment, sampling techniques, and decontamination methods. May be offered through Delta College Corporate Services or credit by prior experience as reviewed by the Science Division. (Cannot be counted toward Natural Science credit.) (24-0)

ENV 153 Confined Space Training 1.3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides mandatory training (20 hours) required for confined space entry relative to hazardous materials spills and contamination in the industrial sector. Includes protocols, monitoring methods, types and use of protective gear, and communication methods necessary to protect workers in potentially hazardous confined space. May be offered through Delta College Corporate Services or credit by prior experience as reviewed by the Science Division. (Cannot be counted towards Natural Science credit.) (20-0)

ENV 154 Hazardous Materials Shipping and Handling 0.4 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides training pertinent to the mandatory protocols for the shipping and handling of hazardous materials, including packaging, labeling documentation, and placarding. May be offered through Delta College Corporate Services or credit by prior experience as reviewed by the Science Division. (Cannot be counted towards Natural Science credit.) (6-0)

ENV 290-299 Special Projects in Environmental Science Courses**ENV 310W Environmental Site Assessments 3 Sem Hrs**

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides overview of standard methods for assessing recognized environmental conditions affecting commercial real estate. Covers standard procedures that aid in the environmental assessment of properties for potential legal and economic impacts of pre-existing environmental conditions. Includes legal responsibilities, financial penalties, safe working conditions, and legally accepted standard procedures for environmental site assessment. Emphasizes ASTM Phase I & II including analysis of case studies. Includes participation in an environmental site assessment. (45-0)

ENV 320W Environmental Management Systems 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides a systematic method of assessing an organization's environmental aspects that protect the environment and the organization from fines and other regulatory penalties. Identifies and addresses environmental issues through standardized environmental management systems. Focuses on ISO 14000 environmental management standards. (45-0)

Electrical Technology

ET 100 Electrical Calculations 2 Sem Hrs

Prerequisite: MATH LEVEL 3. Provides a foundation in the comprehension and analysis of computational skills required for the electrical field of study. Discusses scientific notation, metric prefixes, unit conversion, ratios, algebraic equations, right triangles, scalars, vectors, and graphing. Analyzes the sine wave by identifying characteristics that define the signal. Explains phasor representation of sine waves through the comparison of leading and lagging signals. Accomplishes addition and multiplication of phasors through the use of polar to rectangular conversions or right triangle calculations. Emphasizes entering calculations into a scientific calculator. Credit may be earned in SKET 100 or ET 100 but not both. (30-0)

ET 110 DC Circuits 2 Sem Hrs

ET 100 is recommended to be taken concurrently. Introduces the basic concepts of electricity as it applies to DC circuits. Explains the basic structure of the atom and electron theory. Reviews batteries and other sources of electricity. Explains the schematic symbols for devices used in DC circuits. Determines the total resistance for series and parallel combinations of resistors. Uses Ohm's law, Kirchhoff's voltage law, and Kirchhoff's current law to solve combination DC circuits. Explains the design and application of a Wheatstone bridge. Uses meters during lab activities to apply concepts learned during class. Credit may be earned in SKET 110 or ET 110 but not both. (30-15)

ET 120 AC Circuits 2 Sem Hrs

Prerequisite: ET 100 and ET 110, both with a minimum grade of "C". Introduces the basic concepts of electricity as it applies to AC circuits. Explains inductance, capacitance, and the phasor relationships between electrical signals. Explains the schematic symbols for devices used in AC circuits. Determines the total impedance for series and parallel combinations of resistors, inductors, and capacitors. Uses Ohm's law, Kirchhoff's voltage law, and Kirchhoff's current law to solve combination AC circuits using phasor analysis. Also covers include series and parallel resonant frequencies, harmonics, filters, and time constants. Uses oscilloscopes and meters during lab activities to apply concepts learned during class. Credit may be earned in SKET 120 or ET 120 but not both. (30-15)

ET 122 Programmable Logic Controllers 5 Sem Hrs

Prerequisite: ET 130 with a minimum grade of "C". Builds on the skills developed in ET 130 and applies the concepts learned to Programmable Logic Controller (PLC) systems. Includes hardware topics installation procedures, wiring diagrams, system architecture, and I/O modules and software topics basic logic elements, timers, counters, program control, math functions, data manipulation, sequencers, shift registers, and file/word transfers. Includes lab activities utilizing RSLogix and RSLinx software for creating, editing, saving, downloading, and uploading programs. Applies subject material from lecture in the laboratory through the use of PLC training systems. Uses drawings to construct control circuits, analyze the process, make revisions to wiring or set-up configurations as necessary, and evaluate the proper operation of the PLC circuit. Credit may be earned in SKET 122 or ET 122 but not both. (45-30)

ET 130 Conventional Controls 3 Sem Hrs

Prerequisites: ET 120 with a minimum grade of "C". Identifies control devices commonly used throughout industry and relates each device to the proper symbol that is used in the electrical drawings. Develops a thorough comprehension for the devices by describing the proper operation of a control circuit that is comprised of various components that are integrated together. Applies the subject material from lecture in the laboratory through the use of electro-pneumatic training boards. Uses drawings to construct control circuits, analyze the process, make revisions to wiring or set-up configurations, as necessary, and evaluate the proper operation of the control circuit. Credit may be earned in SKET 130 or ET 130 but not both. (22.5-22.5)

ET 134 Transformers 2 Sem Hrs

Prerequisite: ET 120 with a minimum grade of "C". Principles of transformers are discussed and applied to single phase transformers, three phase transformers, wye and delta connections, and isolation transformers. This course develops competency in the understanding and application of the National Electrical Code (NEC) as it applies to transformer installations. Calculations for turns ratio, voltage ratio, and current ratio are used to determine circuit relationships between voltage and current. (30-0)

ET 136 Grounding 2 Sem Hrs

Prerequisite: ET 100 with a minimum grade of "C". Develops competency in the comprehension and application of the National Electrical Code (NEC) as it applies to the effective grounding and bonding of electrical devices, equipment, and systems. Examines how to properly read and interpret the NEC tables and how to properly calculate the size of the conductors for the application. Credits may be earned in ET 136 or SKET 136, but not both. (30-0)

ET 140 Motor Controls and Drives 4 Sem Hrs

Prerequisite: ET 130 with a minimum grade of "C". Applies the basic principles of control circuits to an intermediate study of DC motors, AC motors, and servo motors. Performs armature reaction, CEMF, and basic motor calculations. Analyzes motor control including starting requirements, forward/reverse control, and sequencing of motors. Emphasizes the extension of motor control to drive systems including SCR armature control, field weakening, Pulse Width Modulation, and Variable Frequency Drives. Explains principles of drive operation, set-up, calibration, and troubleshooting in lecture and applies in laboratory exercises. Credit may be earned in SKET 140 or ET 140 but not both. (30-30)

ET 162 Industrial Robotics I 3 Sem Hrs

Prerequisites: ET 120 or EET 235; Studies modern industrial robotic systems. Introduces the operation, use and safety of industrial robots. Includes feedback mechanisms, actuators, sensors, power supplies, micro-controllers, P.C. computer control and programming. Emphasizes a hands-on approach to system analysis, critical thinking, solution to open-ended problems, computer usage, and teamwork. Credit may be earned in ET 162 or SKET 162 but not both. (15-30)

ET 164 Robotics Electrical Service & Troubleshooting 3 Sem Hrs

Prerequisites: ET 120 and MT 220; Identifies the electrical components of robots, theory of operation. Introduces proper troubleshooting procedures for the robot controller and manipulator. Approximately 50 percent of the course is hands-on troubleshooting of actual robot system and controller. Credit may be earned in ET 164 or SKET 164 but not both. (15-30)

ET 210 Introduction to Electronics 4 Sem Hrs

Prerequisite: ET 120. Identifies basic electronic devices commonly used throughout industry and relates each device to the proper symbol that is used in the electrical drawings. Describes the proper operation of an electronic circuit that is comprised of various components that are integrated together. Applies lecture material in the laboratory through the use of electronic circuit training boards. Constructs electronic circuits from drawings, analyzes the process, makes revisions to wiring as necessary, and evaluates the proper operation of the circuit. Discusses and uses troubleshooting techniques and basic test instruments. Credit may be earned in SKET 210 or ET 210 but not both. (30-30)

ET 250 Programmable Logic Controllers II - Siemens 4 Sem Hrs

Prerequisite: ET 122. Builds on the skills developed in an introduction to PLCs and applies the concepts learned to a Siemens Programmable Logic Controller (PLC) system. Explains the hardware platform for the Siemens PLC along with the logic elements that comprise the instruction set used for programming the logic. Applies material taught in lecture in the laboratory through the use of PLC training systems. Constructs control circuits from drawings, analyzes the process, makes revisions as necessary, and evaluates the proper operation of the PLC circuit. Credit may be earned in ET 250 or SKET 250 but not both. (30-30)

ET 252 Programmable Logic Controllers II - AB ControlLogix 4 Sem Hrs

Prerequisite: ET 122 with a minimum grade of "C". Builds on the skills developed in an introduction to PLCs and applies the concepts learned to an AB ControlLogix Programmable Logic Controller (PLC) system. Explains the hardware platform for the AB ControlLogix PLC along with the logic elements that comprise the instruction set used for programming the logic. Applies lecture subject material in the laboratory through the use of PLC training systems. Constructs control circuits from drawings, analyzes the process, makes revisions as necessary, and evaluates the proper operation of the PLC circuit. Credit may be earned in ET 252 or SKET 252 but not both. (30-30)

ET 262 Industrial Robotics II 3 Sem Hrs

Prerequisite: ET 162. Emphasizes programming, advanced manipulation, grip load instructions, velocity and acceleration instruction, offline editing, handling errors, and robot configuration. Discusses programming concepts and structures in the C+ programming language, industry-like applications and system integration projects. Emphasizes a hands-on approach to system analysis, critical thinking, solutions to open-ended problems, computer usage, and teamwork. Credit may be earned in ET 262 or SKET 262 but not both. (15-30)

ET 280 Industrial Computer Networks 3 Sem Hrs

Prerequisite: ET 122 with a grade of "C" or better. Builds on the skills developed in an introduction to PLC's and applies the concepts learned to the integration of various devices to form an industrial computer network system. Emphasis is placed on the Ethernet communication protocol. Construct a computer network, establish communications between all connected devices, and evaluate the proper operation of a control system. Develops skills of selecting, connecting, and operating sensors and transducers in an industrial environment in order to perform maintenance actions. Credit may be earned in SKET 280 or ET 280 but not both. (15-30)

French

FR 111 French One 4 Sem Hrs

Introduces basic grammatical structures and vocabulary of modern spoken and written French and to correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Introduces certain aspects of francophone culture and to the differences between the French and the English languages. Requires supplemental (outside of class) listening, reading, speaking, and writing using ancillary materials and the textbook's Internet site. (60-0)

FR 112 French Two 4 Sem Hrs

Prerequisite: FR 111, or one semester of college-level French, or one year of high school French, any with a grade of "C" or better or permission of instructor. Continues to introduce students to the basic grammatical structures and vocabulary of modern spoken and written French and to correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Continues to introduce students to certain aspects of francophone culture and to the differences between the French and English languages. Requires supplemental (outside of class) listening, reading, speaking, and writing using ancillary materials and the textbook's Internet site. (60-0)

FR 113W Introduction to French Culture 2 Sem Hrs

Prerequisites: READING LEVEL 3. Examines various aspects of French Culture. Studies history, geography, business practices, contributions in the domain of the arts, and the characteristics of contemporary France. Conducts course in English. (30-0)

FR 211W French Three 4 Sem Hrs

Prerequisite: FR 112 or two semesters of college-level French, or two years of High School French, any with a grade of C or better, or permission of instructor. Continues to introduce students to the basic grammatical structures and vocabulary of modern spoken and written French and to correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Continues to introduce students to certain aspects of francophone culture and to the differences between the French and the English languages. Conducts class in French as much as possible. Requires supplemental (outside of class) listening, reading, speaking, and writing work using ancillary materials and the textbook's Internet site. (60-0)

FR 212W French Four 4 Sem Hrs

Prerequisite: FR 211, or three semesters of college-level French, or three years of High School French, any with C or better, or permission of instructor. Instructs at the Intermediate level in French. Increases and expands vocabulary through a review of grammar covered in previous courses. Increases written and verbal accuracy and fluency, and increases ability to understand written and spoken French. Provides the opportunity to deepen cultural awareness and sensitivity, and awareness of the cultural richness and diversity that characterizes the Francophone world. Conducts class in French. Requires supplemental (outside of class) listening, reading, speaking, and writing work using ancillary materials and the textbook's Internet site. (60-0)

FR 214 Intermediate French Conversation 2 Sem Hrs

Prerequisites: FR 212; or four semesters of college-level French; or four years of High School French, any with a minimum grade of C; or permission of instructor. Offers the opportunity to read and discuss short authentic literary and non literary texts in French and to watch and discuss selected video samples in French. Discusses selected topics such as differences in cultures, educational systems, families, political systems, etc. Conducts course in French. (30-0)

FR 275 Introduction to French Fiction 3 Sem Hrs

Prerequisites: READING LEVEL 3; and FR 212, or four semesters of college-level French, or four years of High School French, any with a grade of C or better, or permission of instructor. Introduces representative literature from the Francophone world (Europe, Africa, and the Americas). Reads, discusses, and writes about selected novels, plays, short stories, or poetry. Expands knowledge of Francophone culture. Conducts course in French. (45-0)

FR 290-299 Special Projects in French Sem Hr

Fire Science Technology

FST 101W Introduction to the Fire Service 3 Sem Hrs

The student will analyze national fire problems, examine fire prevention procedures, identify fire fighters equipment, interpret fire codes and standards, recognize transportation hazards, study wild-fire methods, work with outside fire agencies, identify citizen responsibility, and study future fire problems. (45-0)

FST 102W Fireground Tactics 3 Sem Hrs

Prerequisite: FST 101 or FST 112. Analysis of basic rules of fire fighting strategy, defining engine company responsibilities, determining ladder company functions, correlating MUTUAL AID fires, and general fire problems will be included. (45-0)

FST 103W Building Construction 3 Sem Hrs

Provides a comprehensive look at the methods and practices employed in residential construction as it pertains to fire science. Structural design, blueprints, building materials, and mechanical considerations are covered. (45-0)

FST 104W Arson Awareness 3 Sem Hrs

A comprehensive study of national, state and local arson problems. Examines the local fire department role in reducing arson related fire losses. Examines the duties of and assistance provided by governmental agencies and the private sector. Analyzes local fire statistics to enable the development of an arson data system. Develops effective arson mitigation strategies. (45-0)

FST 105W Hazardous Materials/Emergency Responder 3 Sem Hrs

A comprehensive study of the physical, chemical, and toxicological characteristics of hazardous materials needed to safely and productively address emergency situations that can occur with these substances. (45-0)

FST 107W Fire Protection Systems I 3 Sem Hrs

A comprehensive study of fire protection systems in buildings. Include design, blueprints, inspection and maintenance of automatic sprinkler systems, standpipe systems, special automatic extinguishing systems, smoke control systems, automatic and manual fire alarm systems, rated fire assemblies and other protection found in structures that help retard the propagation of fire. (45-0)

FST 111 Fire Fighter IA 6 Sem Hrs

FST 111 and FST112 must be taken together. Prepares a participant to test for MFFTC certification as Fire Fighter I based on the Michigan Fire Fighters Training Council IFSTA curriculum. Contains an in-depth menu of information and exercises that meet the National Fire Protection Association (NFPA) 1001 standard. (90-0)

FST 112 Fire Fighter IB 6 Sem Hrs

FST111 and FST 112 must be taken together. Continues to investigate the Michigan Fire Fighters Training Council IFSTA curriculum and prepares a participant to test for MFFTC certification as Fire Fighter I. Contains an in-depth menu of information and exercises that meet the National Fire Protection Association (NFPA) 1001 standard. (90-0)

FST 114 Firefighter Safety and Survival 0.8 Sem Hr

Increases awareness of seriousness of firefighter injury/death problem; identifies firefighter responsibility for reducing injuries and deaths, and provides information to improve safety considerations through all aspects of a company officer's job. (12-0)

FST 115 Preparation for Initial Company Operations 1 Sem Hr

Provides basic foundation for management of one or more companies operating at a structural fire emergency. Focuses on basic concepts: Roles and Responsibility, Readiness, Communication, Building Construction, Fire Behavior and Pre-incident Preparation. (15-0)

FST 116 Building Construction Principles 0.8 Sem Hr

Improves student's ability to assess building stability and resistance to fire through an understanding of principles in construction type, alterations, design, and materials that influence a building's reaction to fire. (12-0)

FST 117 Managing Company Tactical Operations: Decision Making (MCTO:D) 0.8 Sem Hr

Prepares Fire Officers and Crew Leaders for appropriate response, decision making and tactical operations of one or more companies in structural fire fighting. (12-0)

FST 118W Records and Reports 0.4 Sem Hr

Introduces various records and reports the fire officer will encounter: describes and demonstrates selected standard procedures in compiling information and exposes student to methods of writing and presenting reports. (6-0)

FST 120W Fire Service Educational Methodology 1 Sem Hr

Develops skill in preparing instructional objectives, designing effective lesson plans, developing evaluation instruments, and creating state-of-the-art media. (15-0)

FST 133W Computer Aided Management Emergency Operations 3 Sem Hrs

Emphasized the use of Computer Aided Management of Emergency Operations (CAMEO), Areal Locations Of Hazardous Atmosphere (ALOHA), and Mapping Applications for Response and Planning of Local Operational Tasks (MARPLOT) software which provides a tool to manage emergency response, emergency planning and regulatory compliance of hazardous substance in or near their communities. Focuses on basic and advanced applications to provide computer skills to individuals, response teams and first responders to plan for the safe handling of chemical accidents. (45-0)

FST 202W Fire Officer I 5 Sem Hrs

Prerequisite: FST 211 and FST 301. Presents "real world contemporary issues" that pose a challenge to supervisory leadership skills of the first line officer. Involves administrative and operational issues at the company/organizational level. Stimulates critical and creative thought process toward what we should be doing versus what we are actually doing as company officers. (60-15)

FST 203W Fireground Management 3 Sem Hrs

Prerequisite: FST 102 or FST 112. A comprehensive study of the roles of the fireground commander including positioning the command post, equipment, and personnel on the scene, strategies for staging and sectoring operations along with command procedures and maintaining communications on the fireground. (45-0) (Every other year)

FST 204 Fire Service Instructional Methodology 3 Sem Hrs

Provides an opportunity to learn how to effectively organize and teach a lesson or course following the criteria in NFPA's Fire Service Instructional Professional Qualifications Level I (Standard 1041). (45-0)

FST 205W Hazardous Materials/Emergency Operations 3 Sem Hrs

Prerequisite: FST 105. A comprehensive study of chemical transportation containers, emergency response equipment, and emergency response procedures needed to safely and productively address emergency situations that can occur with hazardous materials. (45-0)

FST 206 Confined Space Management & Rescue 4 Sem Hrs

Provides participants with the knowledge and skills to minimize or eliminate hazards associated with entry into a permit required confined space. Focuses on OSHA 29 CFR 1910.146 and Michigan Department of Commerce and Industrial Services 325.3001 standards regulating the roles of entry supervisor, entrant, attendant and rescuer. Includes non-permit confined spaces hazards and entry conditions. Includes a hands-on entry and rescue simulation workshop. (45-15)

FST 207W Fire Protection Systems II 3 Sem Hrs

Prerequisite: FST 107. A comprehensive study of fire protection system in buildings. Includes design standards, conducting plan review, inspection, testing and maintenance of fire alarms, automatic detection devices, manual devices, automatic sprinklers, foam-water, water spray, standpipe, water supply and automatic chemical agent systems. (45-0)

FST 208W Fire Officer II 3 Sem Hrs

Prerequisite: FST 202. Focuses on highly specialized and complex technical issues the company officer must confront. Presents the inner workings and dynamics of a typical fire service organization. Involves decision making matrix process that embraces administrative functions and strategic planning of a mid-level company officer. Prepares the company officer in the management of multi-unit response operations; water supply, staging, safety, division/sector, exposure protection and unified command functions. (45-0)

FST 211 Fire Fighter II 4 Sem Hrs

Prerequisite: FST111 & FST112. Prepares a participant to test for MFFTC certification as Fire Fighter II based on the Michigan Fire Fighters Training Council IFSTA curriculum. Contains an advanced in-depth menu of information and exercises that meet the National Fire Protection Association (NFPA) 1001 standard. (60-0)

FST 213 Managing Company Tactical Operations: Tactics (MCTO:T) 0.8 Sem Hr

Prerequisite: FST117. Examines rescue and ventilation, confinement and extinguishment, water supply, exposures and defensive operations, and salvage, overhaul, and support. Concludes with a major fire simulation activity. (12-0)

FST 214 Arson Detection for the First Responder 0.8 Sem Hr

Provides clear definition of the role of initial responder organizations, and essential knowledge to enable them to recognize the potential of an intentionally set fire, preserve evidence, and properly report the information to appropriate officials. (12-0)

FST 215 Introduction to Fire Inspection Principles and Practices (IFIPP) 2 Sem Hrs

Advances professional development of fire service personnel in conducting fire prevention inspections and the rapid changes in the field of fire prevention technology. Includes code enforcement, inspection techniques, common and special hazards, behavior of fire, building construction, fire protection systems and life safety features. (30-0)

FST 216 Building Construction Non-Combustible/Fire Resistive 0.8 Sem Hr

Improves ability of students to assess building stability and resistance to fire while improving operational effectiveness. Includes structural material, principles of fire growth, smoke movement and special problems. (12-0)

FST 217 Fire Service Supervision: Personal Effectiveness 0.8 Sem Hr

Presents current research on management, leadership, stress, and time management and shows how to adapt information presented to personal specific management context. (12-0)

FST 218 Fire Service Supervision: Team Effectiveness 0.8 Sem Hr

Demonstrates how communication, motivation, counseling, and the principles of conflicts resolution and group dynamics may be used to promote efficient group functioning and member satisfaction. (12-0)

FST 219 Fire Protection Hydraulics & Water Supply 3 Sem Hrs

Prerequisites: FST 211 and MATH LEVEL 4. Provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. (45-0)

FST 219L Fire Protection Hydraulics & Water Supply Lab 1 Sem Hr

Prerequisite: FST 211 and MTH LEVEL 4 and Concurrent enrollment in FST 219. Applies theoretical knowledge in a lab environment, through hands-on operation of pumping apparatus. (0-15)

FST 220 Strategy & Tactics for Initial Company Officer 1 Sem Hr

Meets the needs of company officers responsible for managing the operations of one or more companies during structural firefighting operations. (15-0)

FST 224W Fire Investigation 3 Sem Hrs

An in-depth basic course which defines successful methods for conducting fire investigations. Specific topics include basic chemistry of fire, point of origin and fire cause, both accidental and incendiary, motivation of the firesetter, fire scene investigation, evidence collection, photography, follow-up investigation and court presentation. (45-0)

FST 230 Fire Safety Education 3 Sem Hrs

A comprehensive study of national state and local fire safety education program strategies. Implementation of the five step planning process at the local level. Development of skills necessary to organize, plan and use sound management of financial, material, and human resources to reach designated goals and objectives, to address the demonstrated fire safety education needs of the local community. (45-0) (Every other year)

FST 231 Fire Service Law 3 Sem Hrs

Basic introduction to the legal considerations that can affect the professional lives of members of the fire service, fire service-related occupations, and those who aspire to careers in the fire service. (45-0) (Every other year)

FST 240	Internship in Fire Science	2 Sem Hrs
Prerequisite: Minimum 15 credits in Fire Science courses and faculty permission. Provides the opportunity to observe and practice technical applications in the field. (0-100)		
FST 280W	Company Officer 1 & 2	4 Sem Hrs
Prerequisite: FST 115, FST 117, FST 120, FST 211, FST 220, FST 301, FST 307. Focuses on highly specialized and complex technical issues the company officer must confront. Presents the inner workings and dynamics of a typical fire service organization. Involves decision making matrix process that embraces administrative functions and strategic planning of a mid-level company officer. Prepares the company officer in the management of multi-unit response operations; water supply, staging, safety, division/sector, exposure protection and unified command functions. Credit may be earned in FST 280 or the combination of FST 202 and 208 but not in both. (60-0)		
FST 290-299	Special Projects in Fire Science Technology	
FST 300W	Fire Officer III	3 Sem Hrs
Provides basic leadership skills for personal, company and supervisory success. Includes health and safety risk management, program implementation, and incident management system. Credit may be earned in either FST 300 or FST 302, 303, 304, and 305 combined. (45-0)		
FST 301	Incident Command System	1 Sem Hr
Focuses on the fire officer's and manager's responsibilities to use, deploy, implement, and/or function within a department Incident Command System. (15-0)		
FST 302	Leadership I Strategies for Company Success	1 Sem Hr
Presents the basic leadership skills and tools needed to perform effectively in the fire service environment. Includes techniques and approaches to problem solving, ways to identify and assess the needs of the company officer's subordinates, methods for running meetings effectively, and decision-making skills. Credit may be earned in either FST 300 or FST 302, 303, 304, and 305 combined. (15-0)		
FST 303	Leadership II Strategies for Personal Success	1 Sem Hr
Provides the basic leadership skills and tools needed to perform effectively in the fire service environment. Includes ethics, use and abuse of power, creativity, and management of the multiple roles of a leader. Credit may be earned in either FST 300 or FST 302, 303, 304, and 305 combined. (15-0)		
FST 304	Leadership III Strategies for Supervisory Success	1 Sem Hr
Provides the various leadership skills and tools to perform effectively in the fire service environment. Includes delegation to subordinates, assessment of personal leadership styles through situational leadership, discipline, coaching and motivating techniques. Credit may be earned in either FST 300 or FST 302, 303, 304, and 305 combined. (15-0)		
FST 305	Firefighter Health and Safety: Program Implementation & Management	1 Sem Hr
Focuses on the problem of firefighter health and safety, and the design and implementation of a departmental safety program. Includes command issues, policies and programs addressing health and safety in emergency situations. Credit may be earned in either FST 300 or FST 302, 303, 304 and 305 combined. (15-0)		
FST 306	Shaping the Future	1 Sem Hr
Focuses on the skills and techniques that a mid-level manager needs to provide leadership and direction in the fire service. Includes discussions on the use of environmental scanning as a tool, the concepts of paradigm shifts, and methods to reframe problems accurately. (15-0)		
FST 307	Incident Safety Officer	1 Sem Hr
Focuses on the increasing awareness to a wide variety of emergency situations. Teaches what a safety officer at an incident needs to know using scenarios to convey instructional points. (15-0)		

FST 308	Health and Safety Officer	1 Sem Hr
Examines the role of the Health and Safety Officer in policy and procedure issues that affect the health and safety of emergency responders; emphasizes risk analysis, wellness, program management, and other occupational safety issues. (15-0)		
FST 332W	Advanced Fire Administration	3 Sem Hrs
Examines the organization and management of the fire service. Discusses new technologies, deployment of resources available, personnel and equipment costs, municipal fire protection planning, statistics and reporting systems, training and finances. (45-0)		
FST 334W	Fire Prevention Organization & Management	4 Sem Hrs
Presents an overview of history, philosophy, techniques, procedures, programs of private and public agencies involved with fire prevention, organization and administration of code enforcement, licenses, permits, zoning, inspections, investigations, education and analysis of statistics. Includes off site field trips. (45-15)		
FST 338W	Contemporary Issues In The Fire Service	3 Sem Hrs
Examines issues having impact on the fire service to include past, present and future concerns and trends. Discusses current political, policies, practices, deployment and events within the fire service and related professions and technologies. (45-0)		

German

GE 111	German One	4 Sem Hrs
Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written German by means of oral practice, reading of simple texts, and written exercises. (60-0)		
GE 112	German Two	4 Sem Hrs
Prerequisite: GE 111 or one year of high school German. A continuation of GE 111. (60-0)		
GE 211	German Three	4 Sem Hrs
Prerequisites: GE 111 and GE 112. Applies the important grammar rules that have been used and practiced in German One and German Two. Reviews in depth the context of conversation exercises, reading excerpts of contemporary original literacy and journalistic pieces. Exposes students to the living spoken and written language to develop a feeling for the language, which is quite necessary for such a complicated language as German. (60-0)		
GE 212	German Four	4 Sem Hrs
Prerequisites: GE 111, GE 112 and GE 211. Applies the important grammar rules that have been used and practiced in German One, Two, and Three. Reviews in depth the context of conversation exercises, reading excerpts of contemporary original literacy and journalistic pieces. Provides exposure to the living, spoken and written language to develop a feeling for the language. (60-0)		
GE 290-299	Special Projects in German	Sem Hr

Geography

GEO 103W	Introduction To Meteorology	4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 3. Provides study of the fundamentals of weather including the underlying physical processes of the atmosphere, general circulation, weather patterns, and severe weather events. Develops an understanding of weather map analysis and forecasting. Uses extensive laboratory applications related to atmospheric study including graphing, drawing isopleths, data analysis, and access to real-time weather information. (45-15)		

GEO 111W Physical Geography 4 Sem Hrs

Prerequisites: MATH LEVEL 2 and READING LEVEL 2 and WRITING LEVEL 2. Introduces the physical processes that shape the natural landscape. Analyzes internal and external processes through the study of earth-sun relations, climate patterns, weather dynamics, water, the rock cycle, tectonics, soils, weathering, and erosional and depositional landforms. Utilizes maps and models of earth's systems to examine environmental patterns, human-environment interactions and natural resource issues in a spatial context. (45-30)

GEO 113W World Cultural Geography 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Examines essential geographic characteristics and concepts of selected cultural regions of the world. Compares and contrasts these regions in terms of their present and potential development using examples from both the western and non-western world. (60-0)

GEO 116W Professional Global Awareness 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Heightens awareness of cross-cultural understandings. Develops strategies in building business relationships in the global market. (15-0)

GEO 222 Geography of Asia 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Regional geographic interpretation of the area as a continent. Study of relationships of physical, economic, social and political environment activity. (45-0)

GEO 223 Geography of Europe 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Similar to Geography 222 but applied to Europe. (45-0)

GEO 226 Geography of United States and Canada 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Similar to Geography 222 but applied to the United States and Canada. (45-0)

GEO 255W Third World Development 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Using a multidisciplinary approach, describes and analyzes processes and conditions which created and maintain the "Third World." Addresses population, physical environment, historical, political, social and economic factors. Explores and applies current concepts and development theories. Credit may be earned in GEO 255 or SOC 265, but not in both. (60-0)

GEO 260 Geography of the Pacific Islands 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2 and permission of the instructor. A regional geographic interpretation of the Pacific Islands emphasizing their physical, environmental and cultural patterns, and their economic development. Study will focus on three subregions: Polynesia, Melanesia and Micronesia. Field work in the Pacific Islands will be required. Students must pay own expenses. (45-0)

GEO 261 Geography of Caves & Karst Topography 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Study focuses on the role of solution in forming caves and in landscape formation (karst topography). Formation of stalactites, stalagmites, flowstones and other crystal formations are also studied. Students are required to participate in weekend field trip to Mammoth Cave National Park, Kentucky. Students must pay own expenses. (15-0)

GEO 262 The Geography of the Canadian Shield 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Focuses on the interrelationships between humans and the physical environment of this, the largest of the landform provinces of Canada. Major topics include the physical environment, natural resources, recreation, and settlement patterns. Required classroom work, travel and field research will help the students to develop their understanding of this wilderness area. Student must pay own expenses for field trip. (15-0)

GEO 267 Glaciers, Ice Ages & Climate Change 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Reviews the causes and consequences of glaciation, their past and present distribution and landscape features formed by glaciation. Investigates paleoclimatological evidence for past climate fluctuations such as Ice Ages, assesses evidence for current climate change, and discusses societal impacts in a spatial context. Fieldwork in a glaciated area may be included. (15-0)

GEO 268 International Studies In Geography 1-4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides a geographic interpretation of selected world regions. Emphasis on the region's physical and cultural environments. Includes class lectures, individual consultation, and international field study. Expenses for the field study are the responsibility of the student (15-60,0)

GEO 290-299 Special Projects in Geography Sem Hr**Graphic Information Systems****GIS 101 Geographic Information Systems 3 Sem Hrs**

Prerequisites: READING LEVEL 3 and WRITING LEVEL 2 and MATH LEVEL 2, and CST 133W or instructor permission. Examines the fundamentals of geographic information systems. Requires the collection, manipulation and representation of data gathered in the field and from downloads. Introduces a wide variety of fields needed to gather or work with GIS based technology. (45-0)

GIS 102 Geographic Information Systems II 3 Sem Hrs

Prerequisites: READING LEVEL 3 and WRITING LEVEL 2 and MATH LEVEL 2, and GIS 101 with "C" (2.0) minimum grade, or equivalent skills. Continues the examination of GIS concepts and fundamentals. Applies concepts from GIS 101 in the context of solving spatial problems. Reinforces concepts and techniques needed in a wide variety of fields to be able to work with GIS based technology. Develops the skills needed to apply GIS knowledge to everyday life and their chosen careers. (45-0)

GIS 290-299 Special Projects in Geographic Information Systems**Geology****GLG 102 Volcanoes and Earthquakes 1 Sem Hr**

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. A study of the internal dynamics of the earth. Major topics will include: catastrophic events in historic times, products of vulcanism, volcanic rocks, vulcanism and geothermal energy, relationship to earthquakes and volcanoes to plate tectonics, interpretation of earthquake records, man-made earthquakes, earthquake prediction and control. (15-0)

GLG 111 Physical Geology 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Introduces the materials, structure, and processes of planet Earth. Explores the identification, formation, and interpretation of Earth materials (rocks, minerals, and sediment). Investigates properties of Earth layers and processes including plate tectonics and the breakdown and movement of materials at the surface of the Earth. Discusses human interactions including geologic resources and hazards. Field trips optional. (45-30)

GLG 112 Evolution of the Earth 4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2; and GLG 111 or GEO 111. Studies the history of the Earth as recorded in the rock record. Investigates the development and evolution of continents, oceans, and life over geologic time, using North America as a principal example. Laboratory includes study of sediments and sedimentary rocks, invertebrate fossils, and geologic data interpretation. Field trips optional. (45-30)

GLG 115 Introduction to Oceanography 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Explores how the ocean stabilizes the Earth's surface environment. Includes global temperature distributions, El Niño events, ozone depletion, and global warming. Considers the origins and evolution of the ocean basins, currents, circulation patterns, and physical and chemical properties of seawater. Investigates the impact of humans on the marine environment, including shoreline changes, pollution effects, and extraction of natural resources. May include optional field trip to view shoreline features of the Great Lakes. (45-0)

GLG 118 Geology and Dinosaurs 4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Designed for non-science as well as science majors who are interested in the basic principles of geology and in the study of dinosaurs. Introduces the student to the physical earth, its rocks, minerals, and external processes. Examines the theory of Plate Tectonics and the changing shape of the continents during the time of dinosaurs. Investigates the concepts of geologic time, evolution, and fossilization as related to the study of dinosaurs. Reviews new and controversial theories, including dinosaur extinction, metabolism, and behavior. Optional field trip to view museum specimens. Credit may be earned for GLG 117 or GLG 118 but not both. (45-30)

GLG 122 Geology of Michigan 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. An interpretation of the origin and characteristics of the principal geological features of Michigan through the application of basic geological principles. Includes some identification of rocks, minerals and fossils. Occasional field trips. (45-0)

GLG 123 Geology of the Great Lakes Area 2 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. An interpretation of the principal geological features of the Great Lakes region through the application of basic geological principles. Includes some identification of rocks, minerals, and fossils. Field trip required. Students must pay own expenses. (30-0)

GLG 125 Geology of the National Parks 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. A study of the origin of geologic features of selected national parks. Includes an analysis of rocks, minerals, fossils, and physical landscapes as well as the geologic history of varied regions of the United States. Interpretation of topographic and geologic maps of selected areas. (45-0)

GLG 130 Environmental Geology 4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Introduces geology as it relates to human activities, and is designed for both non-science majors and students interested in an environmental career. Emphasizes geologic hazards, including earthquakes, volcanic eruptions, flooding, mass movements, and pollution of water and soil resources. Examines waste disposal along with related topics in medical geology and environmental law. Optional field trip(s) to waste disposal sites and/or remediation sites. (45-30)

GLG 230 Introductory Field Methods in Hydrogeology 2 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2; and GLG 111, or GLG 130, or BIO 110 each with a minimum grade of "C" or better. Introduces the field techniques used in environmental site assessment, ground water monitoring, and ground water testing. Includes soil water sampling, ground water sampling, water quality testing, and water level recording. Explores topics of geophysical surveying, water well installation, piezometer installation and techniques to determine the direction of ground water flow. (15-45)

GLG 262AW Geology of Mackinac Island 1 Sem Hr
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Studies the bedrock geology and glacial features of Mackinac Island and surrounding areas, including Tahquamenon Falls. Weekend field trip required with students paying their own expenses. (15-0)

GLG 262BW Geology of Pictured Rocks 1 Sem Hr
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Studies the bedrock geology and geologic setting of Pictured Rocks National Lakeshore, including surrounding rocks and water falls. Weekend field trip is required with student paying their own expenses. (15-0)

GLG 262W Geology of the Canadian Shield 1 Sem Hr
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Studies the geologic and geographic features of the Lake Superior region of Canada. Includes topics such as rock types, origin of landscape features, physical environments, natural resources, and relationships of humans with the environment. Weekend field trip required with students paying their own expenses. (15-0)

GLG 266 Geology of the Grand Canyon 2 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2, and permission of Instructor. A study of the origin and distribution of the geologic features of the Grand Canyon of Arizona. Major topics include rock types, origin of landscape features, geologic history of the Grand Canyon, and human impact of the environment. Field work in the Grand Canyon is required. Students must pay own expenses. (30-0)

GLG 267 Geology of Northern Lower Michigan 1 Sem Hr
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Studies the rocks and glacial features of the lower peninsula of Michigan. Includes rock types, origin of landscape features, and studies of the exposed bedrock geology. Weekend field trip required with students paying own expenses. (15-0)

GLG 268 International Studies in Geology 1-4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides a geologic interpretation of selected world regions. Emphasis on physical environments, natural geologic processes, and geologic history of the study area. Includes class lectures, individual consultation, and international field study. Expenses for the field study are the responsibility of the student. (15-60,0)

GLG 290-299 Special Projects in Geology Sem Hr

History

HIS 111CW A Survey of Early Western Civilization 4 Sem Hrs
Requires enrollment in a learning community. Studies political, social, economic and cultural history of Europe from prehistoric times through the 1500s. Gives particular attention to civilizations and their relevant contributions to the modern world. Credit may be earned in only one of HIS 111, HIS 111CW, or HIS 111H. (60-0)

HIS 111HW A Survey of Early Western Civilization - Honors 4 Sem Hrs

Prerequisites: LEVEL 4 READING and LEVEL 4 WRITING or permission of the Honors Office. Studies political, social, economic and cultural history of Europe from prehistoric times through the 1500s. Gives particular attention to civilizations and their relevant contributions to the modern world. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in HIS 111 or HIS 111H but not in both. (60-0)

HIS 111W A Survey of Early Western Civilization 4 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 2. Studies political, social, economic and cultural history of Europe from prehistoric times through the 1500s. Gives particular attention to civilizations and their relevant contributions to the modern world. Credit may be earned in HIS 111W or HIS 111HW but not both. (60-0)

HIS 112HW A Survey of Later Western Civilization - Honors 4 Sem Hrs

Prerequisites: LEVEL 4 READING and LEVEL 4 WRITING or permission of the Honors Office. HIS 111 recommended. Studies political, social, economic, and cultural history of Europe from the 1600s to the present time. Gives particular attention to cultural and democratic movements and their influence on current history. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of HIS 112, HIS 112H, HIS 111 or HIS 111H. (60-0)

HIS 112W A Survey of Later Western Civilization 4 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 2. HIS 111W recommended. Studies political, social, economic, and cultural history of Europe from the 1600s to the present time. Gives particular attention to cultural and democratic movements and their influence on current history. Credit may be earned in HIS 112W or HIS 112HW but not both. (60-0)

HIS 215W Recent African-American History: Since 1850 3 Sem Hrs

Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Explores the history of African-Americans from the reconstruction era to the present. Focuses on the ideological, strategic, and demographic changes of African-Americans since 1877, with special emphasis on African-American community, culture, and resistance. Analyzes differences and diversity, particularly regional, gender and class distinctions within African-American communities. Analyzes the interconnectedness of American culture, the economy, politics, power, and tradition. (45-0)

HIS 217W Hispanics in the U.S. 3 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 2. Surveys the social, cultural, economic and political history of Hispanic Americans (Spanish-speaking), which includes groups such as Mexican-Americans, Cuban-Americans and Puerto Rican-Americans, with emphasis on Mexican-Americans. Analyzes the present status of different Hispanic groups and the problems that minority groups encounter in American society. (45-0)

HIS 221W Early American History 3 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 2. Introduces American history from its immediate European background through the Civil War Era. Emphasizes the growth of institutions and ideas. Also examines the political, economic, and social experiences of the young Republic, and their influence on contemporary America. (45-0)

HIS 222CW Recent American History 3 Sem Hrs

Prerequisites: READING LEVEL 3 and WRITING LEVEL 2. Surveys modern America from 1850. Examines topics such as: transportation, activism, politics, labor, industrialism, growth of government and regulation, war, economics, social diversity, civil rights, legalism, constitutionalism, Cold War ideology. (45-0)

HIS 222W Recent American History 3 Sem Hrs

Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Surveys modern America from 1850. Examines topics such as: transportation, activism, politics, labor, industrialism, growth of government and regulation, war, economics, social diversity, civil rights, legalism, constitutionalism, Cold War ideology. (45-0)

HIS 225W History of Women and Gender in the United States 3 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 2. Surveys the role of gender in the United States. Explores theories of masculinity and femininity, the history of gender roles and the relationship of these beliefs and practices to the economy, politics, and cultural expressions of the United States. (45-0)

HIS 237W History of Michigan/With Project 3 Sem Hrs

Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Explores the history of Michigan from the sixteenth through the twentieth century, but directs attention to developments of the eighteenth through the twentieth century. Emphasizes the social and economic development of Michigan, focusing on issues of race, class, and gender as they related to changes in Michigan's population, environment, and economic development. (45-0)

HIS 240HW Renaissances and Reformations in Early Modern Europe - Honors 3 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 4 or permission of the Honors office. Explores the massive upheaval of western civilization by the intellectual movements of the Renaissances and the religious movements known as the Reformations. Studies the roots of these movements and their impact on the culture and politics of Europe and western civilization. Credit may be earned in HIS 240W or HIS 240HW but not both. (45-0)

HIS 240W Renaissances and Reformations in Early Modern Europe 3 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 2. Explores the massive upheaval of western civilization by the intellectual movements of the Renaissances and the religious movements known as the Reformations, the roots of these movements and their impact on the culture and politics of Europe and western civilization. Credit may be earned in HIS 240W or HIS 240HW, but not both. (45-0)

HIS 290-299 Special Projects in History Sem Hr

HIS 290W Special Topics in History: World Wars 3 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 2. Examines the political, cultural, and social history of the world wars and their influence on the present day, emphasizing the historical development of political structures and beliefs, social structures and beliefs, and cultural structures and beliefs. (45-0)

Health Science

HSC 100 Introduction to Healthcare Careers 2 Sem Hrs

Prerequisite: READING LEVEL 2. Introduces aspects of healthcare career. Examines study strategies for success, understanding the many professional roles in healthcare. Examines concepts related to ethics, legal considerations, patient care, confidentiality, communication, safety standards and basic assessment findings promoting critical thinking. (30-0)

HSC 105 Medical Terminology 2 Sem Hrs

Develops a basic understanding of the spelling and meaning of commonly used prefixes, suffixes, and word roots, and their combining forms. Comprehension of these word parts will allow proper use of words for the development of professional language use in the allied health professions. (30-0)

HSC 140 Basic Medical Emergencies 2 Sem Hrs
Provides the background necessary to respond to basic emergency situations in the clinical setting. Includes respiratory, cardiac, neurological, and diabetic emergencies. Cardiopulmonary resuscitation and first aid certification requirements must be met for successful completion of course. (30-0)

HSC 205W Legal Aspects of the Health Care System 2 Sem Hrs
An overview of state legislation affecting various aspects of the health care system, including study of common legal problems, etc., such as dispensing of medication and privacy of medical records. Designed primarily for health care professionals. (30-0)

HSC 210 Medical Office Pharmacology 1 Sem Hr
Prerequisites: HSC 105 and one of the following: BIO 101, BIO 131, BIO 132, BIO 140, BIO 152, BIO 153, BIO 160, or BIO 240, both with a minimum grade of "C" (2.0). Presents the necessary information to comply with the federal laws regarding accurate and secure drug records and the interpretation of prescriptions and communication of medication orders to other professionals. Credit may be earned in MA 205 or HSC 210 but not in both. (15-0)

HSC 290-299 Special Projects in Health Science Sem Hr

Heating, Ventilation, & Air Conditioning

HVAC 121 Fundamentals of Refrigeration & A/C 3 Sem Hrs
Examines the physical, gas, and chemical laws of refrigeration. Develops an understanding of the theory of heat, temperatures, pressures of gases and thermodynamics. Analyzes basic refrigeration cycle and components such as vacuum pumps, gauges, and (PT) Pressure Temperature Charts. Develops an understanding of units on safety and EPA Refrigerant Certification. Credit may be earned in only one of the following: HVAC 121, RHA 121 or SKPT 121. (35-10)

HVAC 122 Refrigeration & A/C Service I 3 Sem Hrs
Prerequisites: RHA 121. Focuses on concepts of common types of domestic refrigerators, dehumidifiers, and portable air conditioners. Develops an understanding of special references involving the essentials of construction of complete refrigeration systems. Presents theory and principles underlying repairing refrigeration appliances and practical shop work through classroom demonstrations and lab experiments. Credit may be earned in one of the following: HVAC 122, RHA 122, or SKPT 122. (35-10)

HVAC 123 Commercial Refrigeration Flow Controls I 3 Sem Hrs
Prerequisite: HVAC 122 or RHA 122. Develops an understanding of basic skills necessary for servicing of commercial units such as walk-in coolers, reach-ins, display cases, and commercial icemakers. Analyzes refrigeration flow-control components, system components, and piping practices. Credit may be earned in one of the following: HVAC 123, RHA 123, or SKPT 123. (35-10)

HVAC 124 Refrigeration & A/C Service II 3 Sem Hrs
Prerequisite: HVAC 122 or RHA 122. Develops an understanding of operational skills in trouble shooting domestic refrigeration and air conditioning systems. Focuses on electrical components and system parts in frost-free, conventional and cyclematic units, and portable air conditioning units. Credit may be earned in one of the following: HVAC 124, RHA 124, or SKPT 124. (35-10)

HVAC 126 Refrigerant Piping & Practices 3 Sem Hrs
Provides instruction in proper methods of brazing joint design using oxyacetylene torches. Develops skills to correctly size, lay out, and install tubing and piping in refrigeration and heating systems. Covers flow capacities of tubing and piping. Examines techniques to cut pipe threads, use pipe fittings, form swag and flare joints, work with plastic vent pipe and plastic drainpipe, work with high temperature solders and fluxes and learn about fastening devices. Credits may be earned in either HVAC 126 or RHA 126 but not in both. (35-10)

HVAC 135 Heating System Fundamentals 3 Sem Hrs
Focuses on the principles of heating systems, types of fuels, electric heating, venting for combustion furnaces, and the methods of correct duct design through lecture and demonstration. Develops skills and basic knowledge of furnace components, testing, and operations. Reviews indoor air quality enhancements and basic mechanical codes for heating and gas piping installations. Credit may be earned in one of the following: HVAC 135, RHA 135, or SKPT 126. (35-10)

HVAC 136 Heating Service Fundamentals 3 Sem Hrs
Prerequisite: HVAC 140 and HVAC 135 or RHA 140 and RHA 135. Examines the electrical schematics on most gas furnace manufacturers' equipment and perform live diagnostics using the multi meters wiring diagrams and shop furnaces. Tests for gas pressures, gas flow rates, and correct air flow measurement. Focuses on diagnostics involving the electrical circuits, airflow rates, gas pressures, gas flow rates and trouble-shooting the furnaces. Credits may be earned in either HVAC 136 or RHA 136 but not in both. (35-10)

HVAC 140 Applied Electricity I 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Covers basic fundamentals of electricity that include introductory schematic symbols and basic electrical circuits, Ohms law, power formulas, series and parallel circuit rules, combination circuits, magnetism, capacitance, inductance and reactance in electrical DC and AC circuits. Applies the above fundamentals to electrical circuits and electrical schematics; calculate voltage, current, resistance and wattage as they apply in an electrical circuit; interpret electrical problems on the refrigeration or heating unit. Uses the multi meter as an Ohmmeter, as a voltmeter, and as an amp meter. Credit may be earned in one of the following: HVAC 140, RHA 140, or SKET 106. (45-0)

HVAC 142 Sheetmetal Layout I 3 Sem Hrs
Analyzes and develops geometrical structures, intersections by radial and triangulation methods of sheet metal layout, the drawing of development layouts, and the forming of actual models with sheet metal. Credit may be earned in one of the following: HVAC 142, RHA 142, or SKMT 171. (35-10)

HVAC 146 Residential Air Conditioning Systems 3 Sem Hrs
Prerequisite: HVAC 121 and HVAC 126 or RHA 121 and RHA 126. Develops skills related to mechanical air conditioning equipment used in comfort cooling and heat pump applications. Examines split and self-contained air conditioning systems. Evaluates and trouble-shoots diagnostics, proper piping, charging methods, and wire diagrams. Credits may be earned in either HVAC 146 or RHA 146 but not in both. (35-10)

HVAC 150 Refrigerant Certification 1 Sem Hr
Focuses on the EPA mandates for refrigerant recovery instruction and testing. Prepares for the EPA Refrigeration Certification test. Covers concepts of information a technician will require to successfully complete the test. You must achieve a score of 80% or higher in 4 test areas to be eligible for certification. Those tests are the Core Area Test, Type I Certification, Type II Certification, and Type III or Universal Certification. To earn an EPA approved Refrigeration Certification License you must pass the Refrigeration Certification test. Credits may be earned in either HVAC 150 or RHA 150 but not in both. (15-0)

HVAC 210W Commercial Air Conditioning 3 Sem Hrs
Prerequisite: MATH LEVEL 4 and HVAC 146 (or RHA 146). Develops an understanding of AC electrical fundamentals concerning the operation, installation, and analysis of HVACR components and control circuits used in commercial air conditioning systems. Examines single- and poly-phase transformers and motors, heating and air conditioning controls, commercial timers, motor starters, contactors, relays, and other control devices. Focuses on rooftop units, split system air-conditioning units, and self-contained air-conditioning units. Includes hands-on training on wiring diagrams, wiring projects, and sealed systems. Credits may be earned in either HVAC 210W or RHA 210W but not in both. (35-10)

HVAC 225 Commercial Refrigeration II 3 Sem Hrs
Prerequisite: HVAC 123 or RHA 123. Develops additional skills and understanding in the servicing of commercial units such as walk-in coolers, reach-ins, display cases, and commercial icemakers. Focuses on electrical systems and diagrams. Analyzes single-phase systems and three-phase systems. Credit may be earned in one of the following: HVAC 225, RHA 225, or SKPT 225. (35-10)

HVAC 230 Design of HVAC Systems 3 Sem Hrs
Prerequisite: HVAC 135 or RHA 135. Focuses on heat gain and loss in residential and commercial structures with both forced air and hydronics representation. Explores computerized and manual load calculations and air system instrumentation in the lab sessions. Develops skills in use of Manual J and Manual D computer editions for heat load and duct sizing. Credits may be earned in either HVAC 230 or RHA 230 but not in both. (30-15)

HVAC 233W Commercial Refrigeration III 5 Sem Hrs
Prerequisite: RHA 122 and RHA 225. Examines and identifies refrigeration units associated with supermarket applications and the food industry. Diagnoses multiplex systems and self-contained equipment for medium/low temperature applications such as piping and trouble shooting mechanical and electrical components. (45-30)

HVAC 235 Hydronic and Oil Heating Fundamentals 3 Sem Hrs
Prerequisite: HVAC 135 or RHA 135. Explains parts of the hydronic systems and oil furnaces that include the operating sequences for safe, efficient combustion and flame safety. Trouble-shoots electrical and electronic control systems, flame safety, and mechanical problems on oil fired furnaces, boilers, hydronic systems, and wire diagrams. Credits may be earned in either HVAC 235 or RHA 235 but not in both. (35-10)

HVAC 290-299 Special Projects in Refrigeration/Heating & Air Conditioning

Interdisciplinary Humanities

IHU 101 Humanities Through the Arts 3 Sem Hrs
A survey of the human condition as seen through film, dramas, music, literature, painting, sculpture, and architecture with an emphasis on the history, techniques, meaning, and evaluation of individual works of western art. (45-0)

IHU 110W Introduction to Genealogy 1 Sem Hr
Introduces and broadly examines genealogy from an interdisciplinary perspective. Examines family and ethnic history and pursues family history for personal and professional growth. Covers research methods, record keeping, and problem solving. Emphasizes the use of archival and printed sources, and the Internet. Credit may be earned in IHU 110 or SSI 110 but not in both. (15-0)

IHU 120W Introduction to Global Peace Studies 4 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Provides an interdisciplinary foundation for global peace studies. Focuses on identifying the various factors that interact to generate peace and/or conflict at the personal, local, national, and international levels. Includes analysis of how the interaction of economic and political influences, as well as the availability of environmental resources and cultural norms and values can result in peace or conflict. (Successful completion of this course satisfies the civic engagement requirement in the AA and AS degrees). Credit may be earned in IHU 120W or SSI 120W but not both. (45-15)

IHU 161 Projects in Cross-Cultural Learning 1 Sem Hr
Assign student volunteers to either community agencies providing cross-cultural experiences or to an international work experience. Supportive seminars will provide both structure and background knowledge of the particular country involved. (A minimum of 30 hours volunteer placement is required). (15-30)

IHU 162 Projects in Cross-Cultural Learning 2 Sem Hrs
Assign student volunteers to either community agencies providing cross-cultural experiences or to an international work experience. Supportive seminars will provide both structure and background knowledge of the particular country involved. (A minimum of 60 hours volunteer placement is required.) (15-60)

IHU 201HW Honors Colloquy 3 Sem Hrs
Prerequisite: LEVEL 4 READING and LEVEL 4 WRITING or permission of Honors office. Required of all Honors students. Explores the elements of critical and creative thinking. Emphasizes relationships among thinking, writing, and productive interaction with others, as well as the interdisciplinary nature of truth and knowledge. Includes project and/or research writing at instructor's discretion. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in LIT 201HW, or ENG201HW, or IHU21HW, but not all. (45-0)

IHU 202 Women's Studies 3 Sem Hrs
Introduces the academic field of women's studies. Explores the diversity of women's experiences and achievements both in the present and in the past from a variety of interdisciplinary perspectives. Addresses social structures and the intersections of gender, class, race, ethnicity, religion, ages, abilities, and sexual identities. (45-0)

IHU 210 Death and Dying 3 Sem Hrs
Prerequisite: ENG 111, ENG 111A or permission of instructor. Studies attitudes, practices, beliefs, theories, institutions of death and dying in contemporary, historical western and also some non-western societies. Addresses issues of pain management, doctor-assisted suicide, quality versus quantity of life, organ donation, bereavement, the funeral industry, living wills and durable powers of attorney. (45-0)

IHU 226W Introduction to Film 3 Sem Hrs
Prerequisite: Any approved College Composition I course with a minimum grade of C or permission of instructor. Follows the creation of a film from the original idea to final production. Examines film as a mode of popular entertainment and as an art form. Focuses on identifying the media's components and developing the viewers' standards of appreciation. Credit may be earned in IHU 226 or LIT 226, but not in both. (45-0)

IHU 232W Exploring Human Nature 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course or WRITING LEVEL 4. Explores the question "What does it mean to be human?" from interdisciplinary perspectives. Identifies and discusses the relative importance of traits and characteristics that "make us human." Examines and evaluates major traditional and contemporary views of human nature and introduces alternative ways of understanding the self in relation to nature, society, religion, and the state. Credit may be earned in IHU 232 or SSI 232 but not in both. (45-0)

IHU 234W World Religions 4 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Introduces religion and the primary "living" religions of the world. Examines the principles and functions of religion, the origins and cultures of the world's major religions, and their beliefs and primary ritual practices. Discusses and critically examines how religious belief systems and practices influence the thoughts and behaviors of adherents in everyday life. Credit may be earned in SSI 234 or IHU 234 but not in both. (60-0)

IHU 240W Leadership for Positive Change 4 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Prepares students to lead positive change in a variety of contexts (personal, family, community/social and organizational). Includes: leadership development, problem solving, service learning, team work, global citizenship, sustainability, and social action. Provides opportunities for individual practice and reflection and requires "change" project in service to family, community, or place of employment. (Successful completion of this course satisfies the civic engagement requirement in the AA and AS degrees). Credit may be earned in IHU 240W or SSI 240W but not both. (45-0)

IHU 245W Biblical Literature: Old Testament 3 Sem Hrs
Studies critically the literature of the Old Testament. Examines the Old Testament Canon in its historical development. Also examines both the literary styles and changing theological and ethical ideas. Credit may be earned in only one of: IHU 245W, ENG 245W, or LIT 245W. (45-0)

IHU 267 Producing A Student Publication 3 Sem Hrs
Prerequisite: Any Approved Composition II or OAT 152 with a grade of "C" or better. Provides a guided opportunity to learn about publishing by compiling, selecting, editing, and designing an annual publication of student writing, photography, and artwork. Focuses on hands-on experience in critical reading, writing, and thinking; editing; layout; production details; marketing; design; and distribution. Credit may also be earned in ART 267 but not in the same semester. (45-45)

IHU 268 International Studies in Interdisciplinary Humanities 1-4 Sem Hrs
Provides an interdisciplinary study-travel experience focused on examining two or more aspects of the Humanities in a region outside the United States. Involves reading, writing, and travel. Expenses for travel and overseas study must be paid by the student. (15/60-0)

IHU 269W Interdisciplinary Study with Domestic Travel 1-4 Sem Hrs
Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2. Provides an interdisciplinary study-travel experience focused on examining the factors, issues, and forces that impact the course topic within the United States. Historical and contemporary perspectives will also be used to examine various cultural contexts and lifestyles. Involves readings, writing, discussion, and travel. Requires domestic travel with expenses to be paid by the student. Credit may be earned in IHU 269W or SSI 269W, but not both. (15/60-0)

IHU 274 Conflict Transformation 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Introduces conflict management, resolution, and transformation. Identifies and practices approaches, methods and techniques to manage, resolve and transform conflicts. Utilizes simulations and role plays to practice and refine not only knowledge of conflict management techniques but skill in applying them. Can be taken as either IHU 274 or SSI 274, but not both. (45-0)

IHU 280W Exploring Diversity 3 Sem Hrs
Prerequisites: LEVEL 2 Reading and LEVEL 2 Writing. Explores themes, issues, perspectives and experiences related to diversity. Provides an opportunity to reflect and practice an interdisciplinary approach to the study of diversity in a global world. Credit may be earned in only one of the following: SSI 288W, SSI 289W, EDU 388W, EDU 389W, IHU 280W or IHU 281W. (45-0)

IHU 281W Exploring Diversity/With Project 4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Explores themes, issues, perspectives and experiences related to diversity. Provides an opportunity to reflect and practice an interdisciplinary approach to the study of diversity in a global world. Credit may be earned in only one of the following: IHU 280W, IHU 281W, IHU 281HW, EDU 388W, EDU 389W, SSI 288W, SSI 289W, SSI 289HW. (60-0)

IHU 282HW Seminar in Social Issues - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4 AND WRITING LEVEL 4 or permission of Honors office. An integrated study involving exploration and development of critical thinking, analysis and problem-solving skills with an interdisciplinary approach focusing on a selected social issue. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in IHU282HW or SOC282HW, but not both. (45-0)

IHU 290-299 Special Projects in Interdisciplinary Humanities

IHU 294W Special Projects: The Great Lakes Indians and European Experience 3 Sem Hrs
Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Examines American Indian history and culture in the Great Lakes from pre-contact to 1934. Considers and explores the approaches of studying Native Americans from a historical and sociological perspective; including the political, cultural, and social consequences of contact with Europeans. Provides a thorough historical and cultural background of the Great Lakes Indians, specifically the "People of the Three Fires," known as the "Anishnaabeg" and "People of the Calumet" of the Great Lakes. Credit may be earned in IHU 294 or SSI 294 but not both. (45-0)

IHU 295W Special Projects in Interdisciplinary Humanities - The Sixties 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course and WRITING LEVEL 2 or permission of instructor. Examines, through an interdisciplinary approach, the literature, film, music and other types of media of 1960s America and explores their interrelationships with history, psychology, sociology and philosophy to discover the causes and effects of the upheaval of the era. Discusses the social movements of the era and the changes in the way democracy has been perceived. Credit may be earned in IHU 295W or SSI 295W but not both. (45-0)

IHU 296 Introduction to the Humanities 2 Sem Hrs
Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Introduces students to a variety of humanities disciplines and analyzes the way the humanities impact public and private life across America and in our local communities. (30-0)

Industrial Technology Education

ITE 290-299 Special Projects in Industrial Technology Education

ITE 330 Careers and Technology for Children 3 Sem Hrs
Prerequisite: ED 200B or Permission of Instructor. Covers how to teach students career awareness, exploration, and preparation. Creates teaching materials using industrial tools, processes and supplies with a focus on 7-12 grade students. (45-0)

ITE 340 Teaching Methods and Strategies in Industrial/Technical Education 3 Sem Hrs
Prerequisite: ED 200B or Permission of Instructor. Surveys local, state, and national standards for teaching industrial technology. Considers current and historic philosophies, methods and trends. (45-0)

ITE 350 Curriculum Development and Facility Planning in Industrial/Technical Education 3 Sem Hrs
Prerequisite: ED 200B or Permission of Instructor. Develop course, program, and curriculum materials. Specify materials, tools, machines, and facilities for industrial technology education. (45-0)

Library Skills

LIB 195W Library Research Skills 2 Sem Hrs
Prerequisites: Reading LEVEL 2. Develops information literacy for success with college-level academic research. Credit may be earned in LIB 195W or ENG 195W but not in both. (30-0)

Legal Support Professional

LSP 105W Law Office Management 1 Sem Hr

Prerequisite: ENG 111 or OAT 151 with a "C" or better. Provides an overview of the day to day operations in a legal environment. Addresses various roles, responsibilities, and problems found in the management of a law office or other legal environment. Uses a hands-on approach to address an industry-level working knowledge of a legal business or organization. (15-0)

LSP 110W Legal Ethics and Responsibilities of the Legal Assistant 3 Sem Hrs

Prerequisite: ENG 111 or OAT 151 with a "C" or better. Provides an overview of the various roles, responsibilities, and problems found in Legal Support Professional careers, and the legal ethics, legal terminology, and basic skills needed. Introduces legal forms and procedures, as well as computer skills and computer programs. Places substantial emphasis on the importance of legal ethics for the Legal Support Professional through study of the State Bar of Michigan Rules of Professional Conduct, the Michigan Code of Judicial Conduct, and the National Association of Legal Assistants Code of Ethics and Professional Responsibility. Addresses preparation for the CLA examination, the importance of communication skills, keeping track of deadlines, calendars, and mailing procedures. Credit may be earned in LAS 110 or LSP 110 but not in both. (45-0)

LSP 115 Principles of Substantive Law 3 Sem Hrs

Prerequisites: ENG 111 or OAT 151 with a "C" or better. Introduces the dynamics of the law and legal process, including the origin and development of the law, types of law and the judicial system. Examines substantive legal subjects including contracts, torts, property, criminal and business related subjects. Emphasizes recognition of legal issues and the understanding of legal terminology. Credit may be earned in LAS 115 or LSP 115 but not in both. (45-0)

LSP 120 Legal Research 1.5 Sem Hrs

Prerequisite: ENG 111 or OAT 151 with a "C" or better, and LSP 115 with a minimum grade of "C". Develops legal research techniques for both state and federal case law, statutes and administrative regulations. Emphasizes basic legal reasoning and writing skills for logical, organized problem solving. Familiarizes students with the most frequently used reference materials as well as online, commercially available legal databases including development of search queries. Credit may be earned in LAS 120 or LSP 120 but not both. (22.5-0)

LSP 150 Real Estate Law 2 Sem Hrs

Prerequisite: ENG 111 or OAT 151 with a "C" or better AND LSP 120 AND enrollment in Legal Support Professional program or permission of instructor. Introduces the principles of real estate law. Describes the process and procedures involved in the buying and selling of real estate, mortgage loans and leasing. Examines the legal support professional's role in assisting the lawyer with preparing or evaluating surveys and legal descriptions, deeds of conveyance, title search reports, agreements, closing and leases. Credit may be earned in LAS 150 or LSP 150 but not in both. (30-0)

LSP 210W Estate and Trust Administration 2 Sem Hrs

Prerequisite: ENG 111 or OAT 151 with a "C" or better, and enrollment in Legal Support Professional program or permission of instructor. Studies the administration of a decedent's estate from initial conference through the closing of an estate and the distribution of assets. Emphasizes preparation of proper probate documentation, preparation of proper tax returns including federal estate tax returns and fiduciary returns, and explanation of Michigan inheritance tax. Credit may be earned in only one of LAS 210, LSP 210 or LSP 210W but not in both. (30-0)

LSP 220 Environmental Law 2 Sem Hrs

Prerequisite: ENG 111 or OAT 151 with a "C" or better AND enrollment in Legal Support Professional program or permission of instructor. Surveys issues pertaining to environmental law. Emphasizes the process of integrating environmental policies into the social system, implementing environmental policies through the legal system, and accommodating environmental values with economic realities, traditional property rights, and national energy policy. Credit may be earned in LAS 220 or LSP 220 but not in both. (30-0)

LSP 230 Civil Litigation 3 Sem Hrs

Prerequisites: ENG 111 (or OAT 151), LSP 110W, LSP 115, LSP 120, MGT 251, each with a minimum grade of "C". Studies the analysis, evaluation, and preparation of the various stages of a civil matter for litigation and trial using Michigan Rules of Civil Procedure and Rules of Evidence. Includes an efficient and systematic approach to fact investigation, drafting pleadings, discovery, and file control. Studies the pretrial stages of a lawsuit with emphasis upon trial preparation including motions in limine, witness preparation, and jury voir dire, concluding with trial and post-trial motions. (45-0)

LSP 235 Criminal Law and Procedure 3 Sem Hrs

Prerequisite: ENG 111 (or OAT 151) with a minimum grade of "C", and enrollment in Legal Support Professional program or permission of instructor. Studies formal legal processes involved in criminal practice from arrest through post-trial motions, sentencing, and appeal. Describes constitutional rights of the accused and the definitions of various criminal offenses. Credit may be earned in LAS 235 or LSP 235 but not in both. (45-0)

LSP 240 Domestic Relations 2 Sem Hrs

Prerequisite: ENG 111 (OAT 151) with a minimum grade of "C", and enrollment in Legal Support Professional program or permission of instructor. Studies the theoretical and practical aspects of family law with an emphasis on Michigan family law including dissolution of marriage, child custody, support, property settlements, judgments and the role of the Friend of the Court. Presents basic techniques in obtaining facts from clients in order to prepare and draft complaints, answers, financial affidavits and verified statements. (30-0)

LSP 250 Corporate Law 2 Sem Hrs

Prerequisite: ENG 111 (or OAT 151) with a minimum grade of "C", and enrollment in Legal Support Professional program or permission of instructor. Describes the nature of corporations, partnerships, and proprietorships with an emphasis on the corporate structure including formation and dissolution, amending Articles of Incorporation and by-laws, shareholders' and directors' meetings, corporate equity and debt securities, as well as employment and shareholders agreements. (30-0)

LSP 253 Bankruptcy Law 3 Sem Hrs

Prerequisite: ENG 111 (or OAT 151) with a minimum grade of "C", LSP 110. Illustrates the legal aspects of the bankruptcy law and demonstrates the practical approach to working in this area. Reviews Federal Bankruptcy Law including different types of bankruptcy chapters, exemptions, dischargeable and nondischargeable debts, preferences, the role of the Bankruptcy Trustee, and preparation of petitions and schedules in bankruptcy. Emphasizes the effective use of the Legal Support Professional. (45-0)

LSP 260 Legal Support Internship I 1 Sem Hr

Prerequisites: ENG 111 (or OAT 151), LSP 110W, LSP 115 and LSP 120 all with a minimum grade of "C" (2.0), and permission of LSP Coordinator. Completion of all Legal Support Professional required courses prior to this course is highly recommended. Requires forty (40) hours of work experience in a law or law-related office. (0-15)

LSP 261 Legal Support Internship II 2 Sem Hrs

Prerequisite: ENG 111 (or OAT 151), LSP 110W, LSP 115 and LSP 120 all with a minimum grade of "C" (2.0), and permission of LSP Coordinator. Completion of all Legal Support Professional required courses prior to this course is highly recommended. Requires eighty (80) hours of work experience in a law or law-related office. (0-30)

LSP 262 Legal Support Internship III 3 Sem Hrs
Prerequisite: ENG 111 (or OAT 151), LSP 110W, LSP , and LSP 120 all with a minimum grade of "C" (2.0), and permission of LSP Coordinator. Completion of all Legal Support Professional required courses is highly recommended. Requires one hundred twenty (120) hours of work experience in a law or law-related office. (45-0)

LSP 280W Legal Writing 1.5 Sem Hrs
Prerequisite: ENG 111 (or OAT 151), and LSP 110W, LSP 115, LSP 120; all with a minimum grade of "C" (2.0). Develops techniques for presentation of technical material in formal and informal written reports, letters, or other current forms of business communication in a legal context. (22.5-0)

LSP 290-299 Special Projects in Legal Support Professional

Lifelong Wellness

LW 206A Occupational Wellness 1 1 Sem Hr
Prerequisite: Admission to restricted enrollment programs. Introduces wellness concepts, behavioral patterns, and activities that can be incorporated into the lifestyles of those working in a wide variety of occupational settings. (15-0)

LW 220W Lifelong Wellness 1 Sem Hr
Prerequisite: READING LEVEL 2 Promotes student understanding and experience of the direct correlation between positive lifestyle habits and well being through a series of classroom lectures that cover a variety of wellness topics and disease prevention. Credit may be earned in only one of the following: LW 220, LW 220H, or LW 206A. (15-0)

LW 221W Fitness and Wellness 2 Sem Hrs
Prerequisite: READING LEVEL 2. Promotes understanding and experience of the direct correlation between positive lifestyle habits and wellbeing through a series of classroom lectures that cover a wide variety of wellness topics and disease prevention with application of these concepts through participation in aerobic conditioning, resistance training, diet analysis, and health assessments. Successful completion of LW 221W meets the Wellness graduation requirement. (15-30)

LW 222 The Science of Nutrition and Exercise 3 Sem Hrs
Prerequisite: READING LEVEL 2. Presents nutrition science as a key element for optimal living and health. Plans and reviews diets, principles, food nutrients, metabolism, and diet analysis. Evaluates health effects of nutrition. Introduces fitness and wellness principles and integrates with nutrition through various conditioning exercises. (45-15)

LW 223W Wellness in Technical Trades 2 Sem Hrs
Prerequisite: READING LEVEL 2. Correlates positive lifestyle habits and wellbeing. Covers a wide variety of wellness topics and disease prevention. Applies concepts through participation in aerobic conditioning, resistance training, diet analysis, CPR, AED, & First Aid Training and health assessments. Successful completion of LW 223W meets the Wellness graduation requirement and is highly recommended for all Technical Trades programs. (20-25)

LW 290-299 Special Projects in Lifelong Wellness

Lifelong Wellness Activity

LWA 101 Fitness for Life 1 Sem Hr
Introduces basic concepts underlying fitness and wellness as they relate to optimal healthful living using a wide variety of aerobic conditioning and resistance training techniques. Credit may be earned in LW 101 or LWA 101 but not in both. (0-30)

LWA 105 Women's Fitness 1 Sem Hr
Introduces basic concepts underlying fitness and wellness as they relate to optimal healthful living using a wide variety of aerobic conditioning and resistance training techniques. (15-15)

LWA 106 Athletic Conditioning 1 Sem Hr
Designed to improve current level of fitness. Uses weight, circuit, plyometric, and endurance exercises to improve power, balance, and agility. Incorporates the five health-related components of fitness: cardiorespiratory endurance, muscle strength and endurance, flexibility, and body composition. Credit may be earned in LW 106 or LWA 106 but not in both. (15-15)

LWA 108 Weight Training 1 Sem Hr
Introduces a systematic program of body conditioning and development through the use of weight exercises to improve individual wellness. Credit may be earned in only one of the following: LWA 108, LW 107, LW 108, or LW 109. (0-30)

LWA 109 Weight Training for Women 1 Sem Hr
Introduces resistance training concepts. Presents, develops, and practices methods for muscular strength and endurance. Pre- and post-fitness assessment testing will be done and individual printouts will be made available. (0-30)

LWA 110 Jogging For Fitness 1 Sem Hr
Introduces jogging as a means to obtain or improve current levels of health or conditioning. Emphasizes jogging to impact cardiorespiratory health. Uses aerobic endurance activities involving training techniques, skilled pacing, weights, calisthenics, proper stretching, and nutritional information to provide a complete exercise program. Credit may be earned in LW 110 or LWA 110 but not in both. (15-15)

LWA 111 Circuit Training 1 Sem Hr
Maintains and improves physical fitness levels. Uses weights, calisthenics, and endurance exercises in different combinations to provide complete workouts in a limited amount of time. Credit may be earned in LW 111 or LWA 111 but not in both. (0-30)

LWA 113 Tae Kwon Do I 1 Sem Hr
an introduction to non-contact martial arts stressing technique and qualities of respect, self-discipline, and skills of self-defense. Credit may be earned in LW 113 or LWA 113 but not in both. (0-30)

LWA 114 Tae Kwon Do II 1 Sem Hr
Prerequisite: LWA 113. Provides an opportunity to utilize advanced techniques in a non-contact martial art class at the intermediate level. This course is mainly designed for yellow stripe through sixth gup color belts. Credit may be earned in LW 114 or LWA 114 but not in both. (0-30)

LWA 115 Aikido 1 Sem Hr
Provides an introduction to a non-aggressive martial art stressing use of spiritual energy, self-cultivation, mutual respect, and skills of self-defense. Credit may be earned in LW 115 or LWA 115 but not in both. (0-30)

LWA 118 Sports Judo 1 Sem Hr
Introduces the rules, skills, and courtesies in sports judo, as well as the special conditioning required. Credit may be earned in one of the following ONLY: LWA 118, LW 117, LW 118, or LW 119. (0-30)

LWA 119 Jiu-jitsu 1 Sem Hr
Introduces the fundamental movements of Jiu-jitsu. Provides opportunity in sport specific strength and conditioning. Pre- and post-fitness assessment testing will be administered. (15-15)

LWA 122 Fencing I 1 Sem Hr
Introduces foil fencing, its basic fundamentals, techniques, rules, and safety measures. Credit may be earned in one of the following ONLY: LWA 122, LW 122, LW 201, or LEA 201. (0-30)

LWA 124 Basketball 1 Sem Hr
Introduces basic skills of passing, dribbling, shooting, positional play, rules, and strategy of the game. Includes special conditioning to improve individual wellness. Credit may be earned in one of the following ONLY: LWA 124, LW 123, LW 124, or LW 125. (0-30)

LWA 127 Volleyball I 1 Sem Hr
Introduces basic skills of handling the ball, passing, setting, spiking, net-rebound play, and blocking. Includes rules and strategy. Credit may be earned in LW 127 or LWA 127 but not in both. (0-30)

LWA 131 Racquetball I 1 Sem Hr
Introduces basic skills and rules necessary to participate in racquetball which is a competitive game played in a four-walled court by two, three, or four players using stringed racquets to serve and return the ball. Credit may be earned in LW 131 or LWA 131 but not in both. (0-30)

LWA 137 Tennis I 1 Sem Hr
Introduces the basic strokes in tennis along with rules, strategies, and courtesies of the game. Credit may be earned in LW 137 or LWA 137 but not in both. (0-30)

LWA 150 Kettlebell Training 1 Sem Hr
Introduces Kettlebell training concepts. Presents, develops, and practices Kettlebell training methods for muscular strength and endurance. Pre and post fitness assessment testing will be done and individual printouts will be made available. (15-15)

LWA 151 Kick Boxing 1 Sem Hr
Presents Kick Boxing as a means of self-defense and conditioning. Provides maximum cardiorespiratory benefits, muscular endurance, speed, and agility in addition to balance, flexibility, and mind/body integration. Credit may be earned in LW 151 or LWA 151 but not in both. (15-15)

LWA 152 Astanga Yoga 1.5 Sem Hrs
Introduces the basic tools used in learning Astanga Yoga. Uses sequential postures, called asana, for linking together a vigorous flow of movements. Includes workout that is physically, spiritually, and mentally engaging. Credit may be earned in LW 152 or LWA 152 but not in both. (15-30)

LWA 153 Dance Aerobics 1 Sem Hr
Provides information and skills needed to assess and improve fitness through the use of aerobic dance, exercises to music, and analysis of personal nutrition habits. Credit may be earned in LW 153 or LWA 153 but not in both. (0-30)

LWA 154W BOSU Ball Training 1 Sem Hr
Introduces fitness training concepts utilizing a BOSU ball. Presents training methods for improving muscle strength, endurance, balance, agility, and flexibility. Presents, develops, and practices BOSU ball activities that provide cardiorespiratory benefits and improved body composition. Pre- and post-fitness assessments will also be performed and results will be explained. (15-15)

LWA 156W Stability Ball Training 1 Sem Hr
Introduces fitness training concepts utilizing a stability ball. Presents training methods for improving muscle strength, endurance, and flexibility. Also presents, develops, and practices stability ball activities that provide cardiorespiratory benefits and improved body composition. Provides effective balance training through use of the stability ball as a tool. Pre- and post-fitness assessments will also be performed and results will be explained. Credit may be earned in LW 156W or LWA 156W but not in both. (15-15)

LWA 157 Step Aerobics 1 Sem Hr
Incorporates bench stepping to enhance cardiorespiratory endurance and muscle tone using the aerobic principle. Emphasis on the importance of fitness and a healthy lifestyle is also applied. Credit may be earned in LW 157 or LWA 157 but not in both. (0-30)

LWA 158 Pilates 1 Sem Hr
Provides total body strengthening, stretching, and conditioning through Pilates-based mat work to achieve overall fitness and improved health. Focuses on the attainment of core strength in the abdomen and trunk. Includes specific exercises concentrating on the use of breathing patterns to help control movement, and visual imagery to engage the mind and body together. Credit may be earned in LW 158 or LWA 158 but not in both. (15-15)

LWA 159 Fitness Walking 1 Sem Hr
Introduces the concept of daily walking to contribute to one's wellness, with emphasis on developing personal walking program. Credit may be earned in LW 159 or LWA 159 but not in both. (15-15)

LWA 160 Nordic Walking 1 Sem Hr
Introduces the concept of Nordic walking and instructs safe and effective techniques using the Nordic poles to enhance one's wellness. Includes conducting pre and post fitness assessment and developing a personal Nordic walking program. (15-15)

LWA 165 Jazz Dance I 1 Sem Hr
For the beginner, an introduction to basic jazz dance techniques (stretches, isolations, floor work, turn and locomotor patterns, etc.) and practice in combining them into dance phrases. There will be simple choreography problems and a survey of the history of jazz dance and of the contemporary jazz dance scene. Credit may be earned in LW 165 or LWA 165 but not in both. (0-30)

LWA 167 Ballet I 1 Sem Hr
Introduces the basic movements of ballet coordinated with exercises for stretching, flexing, and toning. Includes postural alignment and correction, basic barre work, and beginning center adage and allegro movements. (0-30)

LWA 172 Swimming I 1 Sem Hr
Develops fundamental swimming and safety skills. Credit may be earned in LW 172 or LWA 172 but not in both. (0-30)

LWA 173 Swimming II 1 Sem Hr
Prerequisite: LWA 172. Introduces theory and practice of the five basic swimming strokes (front crawl, side stroke, elementary back stroke, and breast stroke). Emphasizes water safety skills and knowledge. Credit may be earned in LW 173 or LWA 173 but not in both. (0-30)

LWA 174 Swimming III Conditioning 1 Sem Hr
Prerequisite: LWA 173. Acquaints the student with the basic principles of cardiovascular fitness and strength in order to increase these components of fitness through swimming. Credit may be earned in LW 174 or LWA 174 but not in both. (0-30)

LWA 183 Water Aerobics 1 Sem Hr
Introduces the basic concepts of water resistance and incorporates them into an individual fitness program that promotes strength, flexibility, and aerobic capacity. Swimming skills not required. Credit may be earned in LW 183 or LWA 183 but not in both. (0-30)

LWA 204 Bicycling for Fitness 1 Sem Hr
Introduces the fundamentals of cycling as a means to obtain or improve current levels of health or conditioning. Emphasizes cardiorespiratory health, muscular strength/endurance, flexibility, and body composition. Includes selection and maintenance of equipment, pedaling, and correct techniques of gear shifting. Student must furnish any type of bike (road, hybrid, or mountain). (0-30)

LWA 206B Occupational Wellness 2 .5 Sem Hr
Prerequisite: Admission to restricted enrollment programs. Continues wellness concepts, behavioral patterns, and activities that can be incorporated into the lifestyles of those working in a wide variety of occupation settings. Credit may be earned in LW 206B or LWA 206B but not in both. (0-15)

LWA 206C Occupational Wellness 3 .5 Sem Hr
Prerequisite: Admission to restricted enrollment programs. Continues wellness concepts, behavioral patterns, and activities that can be incorporated into the lifestyles of those working in a wide variety of occupation settings. Credit may be earned in LW 206C or LWA 206C but not in both. (0-15)

LWA 210 Tae Kwon Do III 1 Sem Hr
Prerequisite: LWA 114. Provides an opportunity to utilize advanced techniques in a non-contact martial art class at an advanced intermediate level. (0-30)

LWA 279 Defensive Tactics in Corrections 1 Sem Hr
Prerequisite: Permission of Instructor. Concurrent enrollment in CJ 102 and LWT 170 for Jail Officer Academy (Local Corrections Officer Certification Academy). Teaches methods of self-defense using pressure points and leverage for subject control. Emphasizes subduing dangerous or violent individuals for criminal justice purposes. Includes Pressure Points Control Tactics (PPCT), Ground Avoidance Ground Escape (GAGE) and Spontaneous Knife Defense. (0-40)

LWA 280 Self-Defense/Fitness 2 Sem Hrs
Prerequisite: Permission of instructor. Concurrent enrollment in CJ 101, LWT 175, and OAT 153 for Basic Police Training Academy. Teaches methods of self-defense using pressure points and leverage for subject control. Emphasizes subduing dangerous or violent individuals for criminal justice purposes. Fitness module emphasizes regular program of calisthenics, stretching, strength building, and conditioning through aerobic and non-aerobic activities. Grade of "C" (2.0) or better in this course in order to complete Basic Police Training Academy. Credit may be earned in LW 280 or LWA 280 but not in both. (0-60)

LWA 290-299 Special Projects in Lifelong Wellness Activity N/A Sem Hrs

Lifelong Wellness Theory

LWT 165 HeartSaver First Aid with CPR 1 Sem Hr
Introduces critical skills needed to respond to and manage an emergency from the first few minutes until arrival of emergency medical services (EMS). Practices adult Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) use. Awards American Heart Association Heartsaver First Aid Course Completion Card, valid for two years with demonstrated competency as defined by the AHA. Course is intended for those with limited or no medical training who need a course completion card in first aid to meet job, regulatory or other requirements. Course is not intended for health care providers. (15-0)

LWT 170 Basic Life Support for the Health Care Provider 1 Sem Hr
Develops cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) knowledge and skills to the level of a health care provider. (15-0)

LWT 175 Advanced First Aid and Emergency Care 3 Sem Hrs
Prerequisite: Permission of instructor. CJ 101, LW 280, and OAT 153 must be taken concurrently for Basic Police Training Academy. Provides knowledge and practical skills necessary to assist victims of injury or sudden illness. Covers CPR, wounds, choking, poisoning, substance abuse, burns, exposure to heat and cold, emergency childbirth, fractures, stroke, convulsive disorders, diabetes, auto and pool extrication. Successful completion of course entitles student to American Red Cross CPR and Advanced First Aid Certifications. Grade of "C" (2.0) or better in this course in order to complete Basic Police Training Academy. (45-15)

LWT 185 Water Safety Instructor 1 Sem Hr
Prerequisite: Current American Red Cross Emergency Water Safety or Lifeguard card and swimmer level skills. Provides theory and techniques in aquatics, practice teaching, water safety, survival swimming, swimming program development and pool and waterfront administration. Certification as a Water Safety Instructor may result upon satisfactory completion of the course. Credit may be earned in LW 185 or LWT 185 but not in both. (0-30)

LWT 186 Women's Self Defense 1 Sem Hr
Provides female students with information, tactics, and considerations that may be useful in avoiding and defending themselves against attacks. (15-0)

LWT 210 Nutrition: The Science of Optimal Living 3 Sem Hrs
Presents nutrition science as a key element for optimal living. Evaluates and applies diet plans and principles, food nutrients, metabolism, diet analysis, and the health effects of nutrition. (45-0)

LWT 211W Sports Nutrition 3 Sem Hrs
Prerequisite: LWT 210. Examines the metabolic and physiologic basis for macronutrient and micronutrient recommendations during general exercise, pre-season training, competition/performance, and recovery. Includes nutritional assessments of exercises varying in intensity and duration, training and recovery periods, and various sports demands. (45-0)

LWT 212 Introduction to Meditation 1 Sem Hr
Provides an overview of the history and purpose of meditation. Introduces students to the practice of various meditation techniques. Emphasizes the role of meditation for concentration, relaxation, stress relief, and personal and spiritual growth. (15-0)

LWT 213W Vitamins Minerals and Health 3 Sem Hrs
Prerequisite: LWT 210 or LW 222 Studies the various rating systems for the daily intake of vitamins; functions and uses of specific vitamins, minerals and other key supplements; signs of deficiency for specific nutrients; and recommends amounts of specific nutrients for average people and individuals with specific needs. (45-0)

LWT 214 Techniques and Applications of Health Fitness Equipment 2 Sem Hrs
Prerequisite: Enrollment in Health Fitness Specialist program. Explores a variety of Health Fitness equipment and apparatus through practical application and experience, including but not limited to dumbbells, medicine balls, stability ball, BOSU ball, resistance tubes, body bars, foam rollers, heavy ropes, body weight, selectorized machines, free weights, and plyometric boxes. Discusses specific anatomy, safe technique, modifications as well as exercise guidelines in preparation for personal training. (15-15)

LWT 230 Theory of Strength and Conditioning 3 Sem Hrs
Prerequisite: BIO 101, BIO 140 or BIO 152 with a "C" (2.0) minimum grade. Explores a variety of strength training principles and theories through the study of multiple exercise modes including free and machine weights, plyometrics, speed and agility, and cardiovascular training. Discusses specific anatomy and physiology, as well as exercise guidelines, in preparation for program development. (45-0)

LWT 231W Introduction to Athletic Training 3 Sem Hrs
Introduces students to the roles, responsibilities, and qualifications of a Certified Athletic Trainer (A.T.C.). Provides an overview of the basic knowledge and skills possessed by an A.T.C. including their role in the sports medicine team, nutrition, injury prevention, assessment, and treatment, as well as learning to identify emergency situations and provide direction for their management. (45-0)

LWT 240 Health Fitness Instructor/Personal Trainer 4 Sem Hrs
Prerequisites: BIO 101W or BIO 152W; and LWT 251 or BIO 251; and LWT 230 with a "C" (2.0) minimum grade. Introduces the skills and knowledge needed to become a certified personal trainer. Covers how to screen and evaluate prospective clients, design safe and effective exercise programs, identify physiological and psychological response to exercise, promote lifestyle behavior modification, quantify the energy cost of work (physical activity), and communicate effectively. Includes self-employment issues as well as legal issues. (60-0)

LWT 242 Group Fitness Instructor 4 Sem Hrs
Prerequisites: BIO 101W or BIO 140 or BIO 152W; and LW 222 or LWT 210; and concurrent enrollment in one of the following: LWA 151, LWA 153, LWA 155, or LWA 157. Introduces the skills and knowledge needed to become a certified Group Fitness Instructor. Includes how to screen and evaluate prospective clients, design safe and effective exercise programs, instruct clients in correct exercise techniques to avoid injury, and respond to the typical questions and problems that arise in a group exercise setting. (60-0)

LWT 251 Exercise Physiology 4 Sem Hrs
Prerequisites: BIO 101W or BIO 140W or BIO 152W. Emphasizes the physiological responses of the human body to acute and chronic bouts of exercise. Presents the study of health/fitness appraisal, exercise prescription, quantifying the energy cost of work (physical activity), identifying physiological and psychological responses to exercise, and the administration of exercise programs to diverse populations. Credit may be earned in LWT 251 or BIO 251 but not both. (60-0)

LWT 252 Environmental Physiology - The Limits of Human Performance 3 Sem Hrs
Prerequisites: BIO 101 or BIO 153 or BIO 241. Emphasizes the physiological responses of the human body to acute and chronic bouts of varying environmental conditions. Presents the study of physiological responses to hot and cold environments, altitude, underwater and microgravity environments, and the effect of air quality on human performance. (30-15)

LWT 253 Ergogenic Aids in Sport 2 Sem Hrs
Prerequisite: LWT 210 or LW 222; and LWT 251; or Instructor Permission. Explores substances and phenomenon that claim to improve sport performance. Discusses the purported effects, proven benefits, and risks of various ergogenic aids. Debates and discusses the ethical questions that surround using performance enhancing substances. (30-0)

LWT 255 Health Fitness Management and Promotion 3 Sem Hrs
Introduces and explores the different and interesting settings in which health and fitness educators practice and the job responsibilities and opportunities within each of those settings. Emphasizes application, skill development, and professional identity and direction in health promotion occupations. (45-0)

LWT 260 Health Fitness Experience 5 Sem Hrs
Prerequisite: LWT 210, LWT 230, LWT 240, LWT 251, and LWT 255. Introduces Health Fitness Education and Promotion students to "on the job" experiences within the Health Promotion field. Includes exercise prescription, health education, health promotion administration and program development in the 300-hour internship experience. Students must have current CPR certification. (9-80)

LWT 290-299 Special Projects in Lifelong Wellness Theory

Management

MGT 110 Business Mathematics 3 Sem Hrs
Prerequisite: MATH LEVEL 3 and READING LEVEL 2 and WRITING LEVEL 2. Covers principles necessary for an understanding of math of the business world. Includes various methods of computing interest and bank discounts; installment buying; F.I.C.A. Federal Income Taxes and other payroll deductions; markup, cost and selling prices; various wage payment systems; sales and property taxes; insurance; measures of central tendency; and an introduction to the metric system. (45-0)

MGT 143 Principles of Advertising 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Provides a broad view of advertising from the marketing and consumer point of view. Historical background, economic and social aspects, roles of advertising, advertising stages, target marketing, media, using selected behavioral science information in advertising, and obtaining proper advertising appeal are included. (45-0)

MGT 145 Principles of Sales 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Emphasizes the marketing concept and the importance of personal selling for those engaged in the marketing of products, services or ideas. Includes an analysis of the steps in a sales proposal. Classroom presentations by students required. (45-0)

MGT 151 Visual Merchandising 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Explores display as a major component of sales promotion. Studies color and basic design principles in terms of their application to display. Analyzes functions, types, and tools of display. Designs and coordinates windows and interior displays. Covers steps in planning and coordination sales promotions. Emphasizes planning, producing and evaluating effective visual displays. (45-0)

MGT 152 Textiles 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Studies natural and man-made fibers, their properties and unique characteristics. Identifies fabrics used in wearing apparel and interior design; fabric production, performance and use; final processes and finishes; the study of weaves, pattern and color. (45-0)

MGT 153W Introduction to Business 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Clarifies the role of business in modern society both domestic and international. Includes an overview of the American business environment, forms of business ownership, obtaining and managing financial resources, management of organizations and human resources, and current issues in the free enterprise system. (45-0)

MGT 157 Principles of Merchandising 3 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Studies merchandising, with an emphasis on contemporary designers and issues. Explores primary, secondary, and consumer markets. Discusses merchandise characteristics, planning and profitability. Addresses technology in the merchandising environment. (45-0)

MGT 243 Principles of Marketing 3 Sem Hrs
Prerequisite: ENG 111 or OAT 151 either with a minimum grade of "C" and completion of or concurrent enrollment in CST 147. MGT 153W is also recommended. Provides an understanding and interpretation of the marketing system and its importance in the economy and the place of the marketing function in business management. Establishes a basic understanding of the psychological, environmental, and managerial functions and presents processes that are employed in contemporary marketing. (45-0)

MGT 245 Principles of Management 3 Sem Hrs
Prerequisite: ENG 111 or OAT 151 either with a minimum grade of "C". MGT 153W is recommended. Discusses theories of management practices and explains fundamentals of administrative, executive, and staff management. Emphasizes the management functions of planning, organizing, directing, controlling, as well as preparation of information required for decision making. Covers the analysis of management problems and the synthesis of solutions. (45-0)

MGT 247 Principles of Retailing 3 Sem Hrs
Prerequisite: ENG 111 (or OAT 151) either with a minimum grade of "C" and completion of or concurrent enrollment in CST 147. MGT 153 is also recommended. Discusses store location, organization structure, and retail personnel management in detail. Presents merchandising policies and budgets, and buying and pricing merchandise. Presents in some detail retail advertising, personal selling, customer services, and loss prevention. Discusses the scope of the retailing industry, requirement of retail management as well as careers in retailing. (45-0)

MGT 248 Principles of Buying for Resale 3 Sem Hrs
Prerequisite: ENG 111 (or OAT 151) and MGT 110 each with a minimum grade of "C". MGT 247 is recommended. Explores the buying function in retailing and wholesaling in depth. Covers the principles of foreign and domestic vendor location and the legality and ethics in the buyer-vendor relationship. Studies the factors determining merchandise selection, including consumer analysis, building model stocks, and estimating sales potential. Studies merchandising expense control factors, manual and computer inventory control systems, as they relate to buying. (45-0)

MGT 251W Business Law I 3 Sem Hrs
Prerequisites: ENG 111 or OAT 151 either with a minimum grade of "C". This course provides a comprehensive study of both state and federal court systems, and the relationships of the participants in a lawsuit, including judges, juries, litigants, witnesses and attorneys. Particular areas of business law that are studied in the context noted above include tort law, contract law, agency law, and the law of personal property and bailments. (45-0)

MGT 252 Business Law II 3 Sem Hrs
Prerequisite: ENG 111 or OAT 151 either with a minimum grade of "C", and MGT 251 or permission of instructor. This course provides a continued study of court systems, with emphasis in specialized areas of business law including sales law, commercial paper law, secured transactions and bankruptcy law, real property law and corporation law. The Uniform Commercial Code and recent consumer protection legislation are stressed. (45-0)

MGT 254 Applied Marketing 3 Sem Hrs
Prerequisite: ENG 111 (or OAT 151) and MGT 243 each with a minimum grade of "C", and MGT 143. Introduces strategic marketing decisions using cases and real life experiences. Introduces the conception, development and implementation of a marketing activity, that will be conducted by the students, with an actual budget. Uses practical experience in preparing and giving several types of presentations to live audiences. (45-0)

MGT 256 Human Resources Management I 3 Sem Hrs
Prerequisites: ENG 111 or OAT 151 either with a minimum grade of "C". MGT 153 is also recommended. Explains human resources management; the environment in which human resources management must operate; contemporary legal guidelines; human resource planning and recruitment; developing effectiveness in human resources through training, development, and appraisal; and creating a productive work environment through motivation, communication, leading and directing. (45-0)

MGT 257W Human Resources Management II 3 Sem Hrs
Prerequisites: ENG 111 or OAT 151 either with a minimum grade of "C", and MGT 256 or permission of instructor. Develops advanced understanding in a variety of Human Resource topics which may include but is not limited to employee-management relationships, dynamics of labor relations, collective bargaining, disciplinary action, compensation management, incentive compensation, employee benefits, safety and health, auditing the Human Resources Management program, and international Human Resources Management. (45-0)

MGT 265 International Business 3 Sem Hrs
Prerequisite: ENG 111 or OAT 151 either with a minimum grade of "C". MGT 153 is recommended. Examines the three environments within which the typical business person must function in a global economy: domestic, foreign and international. The international organizations (i.e., GATT, IMF, OPEC, EC and the UN) and the international monetary system will be covered. Physical, sociocultural, political, legal, labor and financial forces in global markets will be analyzed. Case studies will be used to emphasize management decision making in marketing, production, financing and staffing in world-wide companies. (45-0)

MGT 275 Management Seminar 3 Sem Hrs
Prerequisites: ENG 111 (or OAT 151) either with a minimum grade of "C", MGT 110, MGT 153W, and MGT 245. Enhances and integrates topics introduced in the Management Program courses. Includes discussion of a variety of significant issues related to management, decision-making, teamwork, conflict, sustainability, and organizational leadership in today's dynamic, customer-driven, global economy. Focuses on the variety of management models and leadership styles. Uses peer-teaching and learning approaches, involves group learning experiences in a team environment, requires practical application of concepts, and includes research and case studies in a seminar format. Culminates the management associate degree program. (45-0)

MGT 280 Market Experience New York 2 Sem Hrs
Prerequisite: ENG 111 or OAT 151 either with a minimum grade of "C" and permission of instructor. Studies the New York business market through visits to manufacturers, designers, buyer showrooms, resident buying offices, advertising agencies, retailers, museums, Wall Street, and other places of interest. Student pays tuition plus all expenses. (30-0)

MGT 281 Market Experience Chicago 1 Sem Hr
Prerequisite: ENG 111 or OAT 151 either with a minimum grade of "C" and permission of instructor. Studies the Chicago market through visits to the Apparel Center, buyers showrooms, resident buying offices, designers, ready-to wear merchants, the Mercantile Exchange, and other areas of interest. Student pays tuition plus all expenses. (15-0)

MGT 290-299 Special Projects in Management Sem Hr

Manufacturing & Industrial Technology

MIT 111W Manufacturing Processes 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Teaches the fundamentals of engineering materials and manufacturing processes, and how they interrelate in the design of products. Credit may be earned in MFG 111 or MIT 111 but not in both. (45-0)

MIT 118 Safety Practices and Procedures 2 Sem Hrs
General Industry safety fundamentals including; introduction to OSHA, managing health and safety, walking and working surfaces, exit routes, emergency action plans, fire prevention plans, fire protection, electrical, personal protective equipment, material handling, hazard communication, hazardous material, permit required confined spaces, lockout / tagout, machine guarding, welding, cutting and brazing, introduction to industrial hygiene, bloodborne pathogens, ergonomics, safety and health program, fall protection and powered industrial vehicles. Credit may be earned in IS 118 or MIT 118 but not both. (30-0)

MIT 210 Lean Thinking Strategies 3 Sem Hrs
Explores the principles of Lean Thinking as a method of organizational management. Emphasizes the techniques used to achieve quality, cost and delivery goals such as Just-In-Time or Pull systems, 5-S, value stream mapping, workplace organization and visual controls. Discusses the roles and responsibilities in the organization for allocating resources to achieve lean management. Credit may be earned in MFG 113, MFG 114, and MFG 115 or MFG 210 or MIT 210 but not in more than one. (45-0)

MIT 212 Manufacturing Cell 2 Sem Hrs
Introduces the manufacturing cell as it relates to the workplace. Teaches various cell information, i.e. tooling, material handling, layout, etc. Credit may be earned in MFG 212 or MIT 212 but not in both. (30-0)

MIT 213 Mechanical Power Transmission 3 Sem Hrs
Prerequisites: DRF 121, MS 113 or MS 114, and MT 221. Develops skills in designing and specifying mechanical power transmission components for use in a product or process. Uses mathematical skills to design parts, calculate design requirements, specify commercial components and design the layout of the mechanical power drive train. Verifies that the assembly meets all specifications and quality requirements. Develops a Bill of Materials for the mechanical power transmission components. Uses presentation skills to demonstrate how the components were designed and specified. Credit may be earned in MFG 213 or MIT 213 but not in both. (45-0)

MIT 240 Manufacturing and Industrial Technology Capstone 3 Sem Hrs
Prerequisites: CAD 114, and CAD 226, and CNC 225 and instructor permission. Demonstrates application based activities that tie previous manufacturing learning together. Incorporates skills learned in drafting, CAD CAM, and manual and CNC machining to complete a capstone project. Applies critical thinking skills in design, build and test of the product. Includes process planning, cost analysis and marketing as part of the capstone project. Requires a final presentation of product design and development. Must request approval from program coordinator to apply for capstone course one semester prior to enrollment. (0-45)

MIT 290-299 Special Projects in Manufacturing and Industrial Technology

Machine Tool Operation

MS 113 Introduction to Machining Processes 2 Sem Hrs
Introduces the manufacturing facility. Utilizes safety, materials, hand tools, precision instruments, drill presses, lathes, mills, grinders, and saws. Credit may be earned in MS 113 or SKTR 113 but not both. (30-30)

MS 120 Machinery's Handbook 3 Sem Hrs
Prerequisite: MS 113 or MS 114 or SKTR 182; and SKMA 103 or MTH 103 or MT 110. Focuses on learning how to use and understand the Machinery's Handbook. Credit may be earned in either MS 120 or SKTR 183 but not both. (45-0)

MS 181W Machine Tools I 4 Sem Hrs
Prerequisite: MS 113 or instructor permission. Introduces the manufacturing facility. Utilizes safety, materials, hand tools, precision instruments, drill presses, lathes, mills, pedestal grinders, and saws. Studies fundamentals and procedures to provide an understanding of manufacturing processes. Demonstrates greater knowledge of machine tool practices and applies that knowledge to educate others. Credit may be earned in MS 114 or MS 181 or SKTR 181 but not more than one. (30-60)

MS 182 Machine Tools II 4 Sem Hrs
Prerequisites: MS-181 or SKTR-181 or permission of instructor. Trains in the set up and operation of various metal working machines and construction of projects from engineering drawings. Trains in use of a variety of measuring instruments to take measurements of one thousandth of an inch or closer. Utilizes safety, mills, lathes, drill presses, saws, grinders, speeds and feeds to complete duty and task list. Credit can be earned in MS 130 or MS-182 or SKTR 182, but not more than one. (45-45)

MS 185 Precision Grinding-Flat Surface 3 Sem Hrs
Prerequisite: MS 181W, or SKTR 181W, or instructor permission. Instructs on proper selection and operation of precision flat surface grinding machines. Selects proper grinding wheels, grinding machine and work holding devices for a variety of grinding operations. Grinds previously machined and heat treated projects from prerequisite course. (15-30)

MS 190 Precision Grinding-Cylindrical Surface 3 Sem Hrs
Prerequisite: MS 182, or SKTR 182, or instructor permission. Instructs on proper selection and operation of precision cylindrical surface grinding machines. Selects proper grinding wheels, grinding machine and work holding devices for a variety of OD/ID grinding operations. Grinds previously machined and heat treated projects from prerequisite course. (15-30)

MS 230 Machine Tools III 4 Sem Hrs
Prerequisites: MS 182 or SKTR-182 or permission of instructor. Trains in advanced set up and operation of various metal working machines to construct projects from engineering drawings. Trains in use of a variety of measuring instruments to take measurements of one ten thousandth of an inch or closer. Utilizes safety, materials, hand tools, precision measuring instruments, lathes, mills, flat surface grinders OD and ID surface grinders. Emphasizes jigs, fixturing, part location, speeds and feeds. (0-90)

MS 290-299 Special Projects in Machine Tool Operations

Mechanical Technology

MT 110 Machine Tool Calculations 4 Sem Hrs
Prerequisite: Math Level 4. Includes the following geometry topics: angles, triangles, polygons, circles, prisms, cylinders, and cones. Includes right-triangle trigonometry, radian measure, oblique-triangle trigonometry, and graphs of trigonometric functions. May receive credit in only one of the following: MTH 103, SKMA 103 or MT 110. (60-0)

MT 151 Power Transmission 3 Sem Hrs
Prerequisite: MATH LEVEL 5: Identifies and explains safety rules, regulations, test procedures, installation, removal, and operation of belt drives, chain drives, mechanical couplings, and mechanical drive systems. Demonstrates the concepts of shaft alignment. Credit may be earned in MT 151 or SKMT 151 but not both. (30-15)

MT 161 Industrial Rigging and Safety 2 Sem Hrs
Prerequisite: MATH LEVEL 3. Studies the methods of safe transfer of loads and provides comprehensive, easy to understand, and reliable information of the entire field of rigging operations. Discusses techniques and methods to accomplish the rigger's task with the greatest safety for all of the workers on a project, as well as for passers-by and the public in general. Identifies sources of, organizes, and describes safety rules, regulations and practices related to job-site hazards, personal protective equipment, aerial work, hazard communication, and electrical safety. Credit may be earned in MT 161 or SKMT 161 but not both. (15-15)

MT 215 Introduction to Composite Materials 3 Sem Hrs
Prerequisite: MATH LEVEL 6. Prepares student in the basic concepts and definitions of composite materials. Covers fabrication, structure, properties, and applications of fibrous materials as well as structure and properties of polymer matrix, metal matrix, and ceramic matrix materials. Studies interface between fiber and matrix, fabrication methods, properties and applications of composites structures which include wind energy, marine, aerospace, etc. Credit may be earned in MT 215 or WTT 215 but not both. (30-30)

MT 220 Hydraulics and Pneumatics I 3 Sem Hrs
Prerequisite: MATH LEVEL 4. Focuses on the operation and function of fluids, pumps, compressors, valves, cylinders, motors, filters, and other components used in the power and control of machine tools, construction and agricultural equipment. Uses algebraic formulas, charts, and graphic symbols for design and diagnosis of basic circuits. Credit may be earned in either SKMT 101 or MT 220 but not in both. (30-30)

MT 221W	Introduction to Engineering Materials	3 Sem Hrs
Prerequisite: MIT 111 and MATH LEVEL 6. Examines the physical, chemical and mechanical properties of metals, ceramics, polymers, and composite materials and relates these properties to application requirements. Exams the micro and macro structures of these materials along with the tests and measurements designed to identify them. Discusses concepts necessary to the selection and specification of materials for making products and building structures. (30-30)		
MT 250	Statics and Strength of Materials	4 Sem Hrs
Prerequisites: PHY 111 and MTH 121. Studies forces acting on rigid bodies, including applications of these forces to practical design problems. Introduces and uses concepts of stress in tension, compression, torsion, and shear in various combinations. (60-0)		
MT 251	Statics and Dynamics	3 Sem Hrs
Prerequisites: PHY 111 and MTH 121. Studies statics and dynamics of mechanical systems by solving problems of small sub-systems using a calculator. Studies forces in 2-D and 3-D acting on particle systems and rigid bodies. Solves problems using the following concepts: equilibrium laws, centroids, center of gravity, moment of inertia. Uses 3 methods to study dynamics of motion - kinematics, work/energy and impulse/momentum. (45-0)		
MT 252	Strength of Materials	3 Sem Hrs
Prerequisites: ENG 112 or ENG 113 and MT 251. Uses mathematical and computer methods, as well as Mohr's circle, to determine stress, strain, load, and deflection relationships for structure and machine elements. Uses machine components in tension, compression, or shear, beams in bending or deflection, columns, and bolted joints in design calculations. (45-0)		
MT 256	Machine Design	3 Sem Hrs
Prerequisites: MT 250 with a grade of "C" or better. Uses hand calculator and computer methods to solve for the dimensions and allowable loads of machine elements and power trains. Studies shafts, keyed couplings, bearings, gear trains, V-belt and chain drives, springs and fasteners. Requires a final design using CAD. (45-0)		
MT 290-299	Special Projects in Mechanical Technology	

Mathematics

MTH 090	Math Study Skills and Practical Applications	2 Sem Hrs
Concurrent enrollment in a math course is required. Practices success strategies to be utilized in a math class. Includes learning styles, memory process, math anxiety, time management, reading, test taking, as well as other study skills. Applies success strategies to their current math class as well as collaborative problem solving using quantitative literacy applications from many other disciplines. Does not earn credit toward graduation. (30-0)		
MTH 092	Basic Mathematics	2 Sem Hrs
Prerequisite: MATH LEVEL 1. Provides a foundation in arithmetic. Covers four fundamental operations of whole numbers, fractions, and decimals. Includes percentages, ratios, proportions, and applications. Does not earn credit toward graduation. (30-0)		
MTH 096	Pre-Algebra	2 Sem Hrs
Prerequisite: MATH LEVEL 2. Provides preparation for algebra. Includes fractions, decimals, integers, ratios, and percentages with an introduction to equations, graphs, and functions. May receive credit in only one of the following: MTH 106 or MTH 096 or SKMA 096 or SKMA 101. Does not earn credit toward graduation. (30-15)		

MTH 097	Algebra I	3 Sem Hrs
Prerequisite: MATH LEVEL 3. Includes natural numbers, integers, first-degree equations and inequalities, special products, factoring, rational expressions and equations, graphs, and linear systems, exponents, and quadratic equations. May receive credit in only one of the following: MTH 107 or MTH 097 or SKMA 097 or SKMA 102. (Equivalent to first year high school algebra). Does not earn credit toward graduation. (45-0)		
MTH 098	Mathematical Reasoning	4 Sem Hrs
Prerequisite: MATH LEVEL 3. Develops conceptual understanding and acquires multiple strategies for solving problems using big mathematical and statistical concepts. Makes connections between concepts and applies previously learned material to new contexts. Practices using mathematical, statistical, and quantitative information to make decisions. Explores strategies for success in future courses; gains skills for the workplace and participating as citizens in our society. A graphing calculator is required. (60-0)		
MTH 103	Applied Geometry and Trigonometry	4 Sem Hrs
Prerequisite: Math Level 4. Includes the following geometry topics: angles, triangles, polygons, circles, prisms, cylinders, and cones. Includes right-triangle trigonometry, radian measure, oblique-triangle trigonometry, and graphs of trigonometric functions. May receive credit in only one of the following: MTH 103 or SKMA 103 or MT 110. (60-0)		
MTH 115W	Mathematics for Elementary Teachers I	3 Sem Hrs
Prerequisite: MTH 097 with a grade of "C" or better or an acceptable score on the current college assessment instrument. Includes numeration systems, sets and their properties, classification of number systems (whole numbers through real number), operations and their properties, arithmetical algorithms, and problem solving. Uses a variety of learning styles, manipulatives, and calculator and computer applications. The National Council of Teachers of Mathematics Standards are incorporated. Students may use either MTH 115W or MTH 110, not both, to fulfill graduation requirements. (45-0)		
MTH 116W	Mathematics for Elementary Teachers II	3 Sem Hrs
Prerequisite: MTH 115 or MTH 110 with a grade of "C" or better. Investigates problem solving, statistical charts and graphs, geometric figures and properties, and measurement systems including metric. Reviews fractions, decimals, percents, real numbers, their operations and properties. Reviews algebra of lines and equations. Includes a variety of learning styles using manipulatives, calculators and computer application. The National Council of Teachers of Mathematics Standards are incorporated. (45-0)		
MTH 117	Math for Allied Health	2 Sem Hrs
Prerequisite: MATH LEVEL 3. Reviews (very briefly) fractions, decimals, percentages, and proportions. Includes a study of the metric system and the household system with applications in converting from one system to another. Emphasizes applications including those involved in giving medications and in finding times and various rates for intravenous feedings. (30-0)		
MTH 118W	Mathematical Explorations	4 Sem Hrs
Prerequisite: MATH LEVEL 4. Provides a course for students majoring in fields that do not have a specific mathematics requirement. Emphasizes practical applications of mathematics, problem solving, and the communication of mathematics. Includes core topics in Finance, Probability, Statistics, and Geometry. Integrates measurement in the geometry topic, and infuses algebra throughout all topics. A minimum of 4 additional topics will be selected from Economics, Calculus, Graph Theory, Set Theory, Game Theory, Number Theory, Logic, Voting, Apportionment, Combinatorics, Linear Programming, or other approved topics. A GRAPHING CALCULATOR IS REQUIRED. (60-0)		

MTH 119AW Intermediate Algebra Extended Hours 4 Sem Hrs
Prerequisite: MATH LEVEL 4 or MTH 097 with a grade of C or better. Includes fundamental concepts of algebra and applications, equation solving, graphs, systems of linear equations, quadratic equations, algebraic fractions, exponents, radicals, functions, and logarithms. Same content as MTH 119, but class meets 2 additional contact hours per week to allow 50% more time to review and learn each concept in MTH 119. Credit may be earned in MTH 119 or MTH 119A, but not both. A GRAPHING CALCULATOR IS REQUIRED (90-0)

MTH 119W Intermediate Algebra 4 Sem Hrs
Prerequisite: MATH LEVEL 5. Includes fundamental concepts of algebra and applications, equation solving, graphs, systems of linear equations, quadratic equations, algebraic fractions, exponents, radicals, functions, and logarithms. Credit may be earned in MTH 119 or MTH 119A, but not both. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 120 Finite Mathematics 3 Sem Hrs
Prerequisite: Any MTH 119 with a grade of "C" or better or two years of high school algebra. Includes topics of mathematical modeling (polynomial and rational functions; their graphs and applications; and arithmetic and geometric progressions), systems of equations and inequalities, linear programming, and an introduction to probability (binomial distributions and graphing qualitative data). Covers computer applications of some topics. A GRAPHING CALCULATOR IS REQUIRED. (Those students planning to take MTH 161 should take MTH 151 rather than MTH 120.) (45-0)

MTH 121 Plane Trigonometry 3 Sem Hrs
Prerequisite: Any MTH 119 with a grade of "C" or better or two years of high school algebra. Includes trigonometric functions and their graphs, solution of triangles, identities, trigonometric equations, inverse trigonometric functions, and complex numbers. A GRAPHING CALCULATOR IS REQUIRED. (45-0)

MTH 122W College Algebra 4 Sem Hrs
Prerequisite: MATH LEVEL 6. Reviews the mechanics of basic Algebra and solidifies understanding by using algebraic techniques, constructing mathematical models, solving problems and interpreting results. Includes: algebraic expressions; equations and inequalities; functions, inverse functions, and graphs; polynomial and rational functions; radical functions; exponential and logarithmic functions; matrices and determinants; systems of equations and inequalities; complex numbers; sequences and series. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 151 Pre-Calculus Mathematics 4 Sem Hrs
Prerequisite: Any MTH 119 and MTH 121 with grades of "C" or better, or three years of high school college-preparatory mathematics including trigonometry. MTH 121 may be taken concurrently with instructor approval. Designed for students planning to take calculus. Includes a study of the elementary functions, equations and inequalities, systems of equations, review of trigonometry, and analytic geometry. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 153 Algebra for Calculus 3 Sem Hrs
Prerequisites: Two years of high school algebra and permission of the instructor. Provides a review of algebra as related to calculus topics of limits, differentiation, and integration. Please note: This is a special section of math that may not be used to fulfill prerequisites required for other Delta College math courses. (45-0)

MTH 160 Calculus for the Social and Managerial Sciences 4 Sem Hrs
Prerequisite: MATH LEVEL 8, or MTH 120 or MTH 121 or MTH 122 or MTH 151 with a "C" or better or three and a half years of high-school-college preparatory mathematics. Satisfies the mathematics requirements for students majoring in business or social sciences. Covers topics including graphing, differentiation, and integration of functions (algebraic, exponential, and logarithmic), and the use of these techniques within business and economic models. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 161 Analytic Geometry and Calculus I 4 Sem Hrs
Prerequisite: MTH 151 with a grade of "C" or better or four years of high school college-preparatory mathematics including trigonometry. Includes functions, graphs, limits, continuity, derivatives and their applications, integrals, as well as differentiation and integration of exponential and logarithmic functions. A GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 162 Analytic Geometry and Calculus II 4 Sem Hrs
Prerequisite: MTH 161 with a grade of "C" or better. Includes applications of integrals, integration techniques, limits and indeterminate forms, improper integrals, infinite series, polar coordinates, parametric equations, as well as differentiation and integration of trigonometric and hyperbolic functions. A TI 89 GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 208W Elementary Statistics 3 Sem Hrs
Prerequisite: MATH LEVEL 6 or MTH 098, or MTH 118W or MTH 119W or MTH 119AW with a grade of "C" or better or two years of high school algebra. Studies statistical concepts including frequency distributions, measures of central tendency and dispersion, probability, confidence intervals, hypotheses testing, linear correlation and regression, chi-square, ANOVA. A SPECIFIC GRAPHING CALCULATOR IS REQUIRED. (45-0)

MTH 209W Statistics 4 Sem Hrs
Prerequisite: MATH LEVEL 6 or MTH 098, or MTH 118W or MTH 119W or MTH 119AW with a grade of "C" or better or two years of high school algebra. Studies statistical concepts including frequency distributions, measures of central tendency and dispersion, probability, confidence intervals, hypotheses testing, linear correlation and regression, chi-square, ANOVA, non-parametric tests. (60-0)

MTH 260 Discrete Mathematics 3 Sem Hrs
Prerequisite: MTH 161 with a grade of "C" or better. Introduces discrete mathematics topics for applied mathematics and computer science. Includes Boolean algebra, predicate logic, sets, relations, induction and recursion, counting theory, graphs and trees. (45-0)

MTH 261 Analytic Geometry and Calculus III 4 Sem Hrs
Prerequisite: MTH 162 with a grade of "C" or better. Includes solid analytical geometry, vectors, partial differentiation, multiple integration, line and surface integrals, Green's, Stokes', and Gauss' theorems. A CAS GRAPHING CALCULATOR IS REQUIRED. (60-0)

MTH 263 Introduction to Linear Algebra 3 Sem Hrs
Prerequisite: MTH 261 with a grade of "C" or better. Investigates matrices, determinants, linear systems, vector spaces, linear transformations, eigenvalues, and eigenvectors. (45-0)

MTH 264 Introduction to Ordinary Differential Equations 3 Sem Hrs
Prerequisite: MTH 261 with a grade of "C" or better. Studies the techniques for solving first and second-order differential equations and first-order systems of differential equations both linear and nonlinear, through qualitative, quantitative and numerical approaches. Includes Laplace transforms and uses applications in science and engineering throughout the course. (45-0)

MTH 290-299 Special Projects in Mathematics Sem Hr

Music

MUS 100 Music Elements I 3 Sem Hrs
Understand basic music elements such as rhythm, meter, form, melody and harmony through seeing, hearing and performing musical examples. (45-0)

MUS 103 Music Composition 3 Sem Hrs
Prerequisite: MUS 100. Explains fundamentals of composition, including notation, melodic construction, melodic dictation, functional harmony, basic music theory and analysis. Uses knowledge of fundamentals to create a musical composition. (45-0)

MUS 110	Music Elements II	3 Sem Hrs
Prerequisites: MUS 100 or permission of instructor. Continues study of basic music elements such as rhythm, meter, form, melody and harmony. Applies music elements to the communication of musical concepts. (45-0)		
MUS 111	Music Appreciation I	3 Sem Hrs
Prerequisite: READING LEVEL 2 and WRITING LEVEL 2. Provides fundamentals of listening to and understanding of instrumental music (concerto, small ensemble). Presents basic principles for discussion as they relate to a variety of examples from classical, folk, and pop styles. (45-0)		
MUS 112	Music Appreciation II	3 Sem Hrs
Prerequisite: MUS 111 or permission of instructor. Continued study of instrumental music (concerto small ensemble). Promotes an understanding of and for vocal forms (Opera, art, song, large choral work, i.e., oratorios, masses). (45-0)		
MUS 118	Jazz History: Origins to the Present	3 Sem Hrs
Assists students in developing an interest in and respect for Jazz as an original American art form. Traces Jazz history from its theoretical origins to the present. Focuses on the evolutionary development of the music and the artists who brought about Jazz. (45-0)		
MUS 119W	The History of Rock and Roll: From Its Origins to 1980	3 Sem Hrs
Develops an interest and respect for the origins and growth of Rock and Roll music in the United States and Europe through the focus on recordings and videos that documented its progress. (45-0)		
MUS 120W	World Music: Survey	3 Sem Hrs
Develops an interest and respect for music from different countries and cultures by tracing the development and structures of non-European music forms through a focus on recordings and artists that have documented these unique musical traditions. (45-0)		
MUS 126	Music Theory I	3 Sem Hrs
Prerequisite: MUS 110 with a minimum grade of "C", or permission of instructor. Concurrent enrollment in MUS 128 is recommended. Identifies and composes basic musical patterns found in melody, harmony, and form. Writes basic intervals, scales, and triads in all major and minor keys. Identifies basic tonal melodies, harmonies, progressions and form. Course designed for music majors. (45-0)		
MUS 127	Music Theory II	3 Sem Hrs
Prerequisites: MUS 126 with a minimum grade of "C", or permission of instructor. Concurrent enrollment in MUS 129 is recommended. Identifies advanced musical patterns found in melody, harmony, and form and those using intervals, scales and chords in all major and minor keys. Analyzes advanced musical compositions in order to comprehend harmony and form/structure. Composes advanced tonal melodies, harmonies, and progressions. Course designed for music majors. (45-0)		
MUS 128	Musicianship Skills I	2 Sem Hrs
Prerequisite: MUS 110 with a minimum grade of "C", or permission of instructor. Must be taken concurrently with MUS 126. Develops aural skills related to sight singing and ear training. Sings basic intervals, scales, melodies, and rhythm patterns from a score. Identifies intervals, scales, melodies, rhythmic patterns, and harmonic progressions from an auditory source. Uses knowledge to improve general musicianship skills. Course designed for music majors. (30-0)		
MUS 129	Musicianship Skills II	2 Sem Hrs
Prerequisite: MUS 128 with a C or better, or permission of instructor. Must be taken concurrently with MUS 127. Develops aural skills related to sight singing and ear training. Sings advanced intervals, scales, melodies, and rhythm patterns from a score. Identifies advanced intervals, scales, melodies, rhythmic patterns, and harmonic progressions from an auditory source. Uses knowledge to improve general musicianship skills. Course designed for music majors. (30-0)		

MUS 131	Piano I	2 Sem Hrs
Beginning class instruction leading to the ability to play melodies and accompanying chord patterns and rhythms. (15-15)		
MUS 132	Piano II	2 Sem Hrs
Prerequisite: MUS 131 or permission of the instructor. Continuation of Piano I. (15-15)		
MUS 135	Fundamentals of Guitar	2 Sem Hrs
Introduces basic written music notation, simple chords, strumming patterns, and right hand fingerstyle patterns. Performs a variety of traditional and popular songs. Enriches music skills for students and teachers. (30-0)		
MUS 136	Contemporary Guitar Styles	2 Sem Hrs
Prerequisite: MUS 135 or permission of instructor. Student must provide own instrument. Utilizes rock, jazz, blues, and other songs to teach contemporary guitar styles. Uses tablature and chord charts extensively. Teaches scales and chords according to the needs of each style covered. Improvises over simple progressions in each of the above styles. (30-0)		
MUS 137	Classical Guitar	2 Sem Hrs
Prerequisite: MUS 135 or permission of instructor. Nylon-string classical guitars are recommended. Introduces techniques and repertoire of the classical guitar and students will perform a variety of simple repertoire pieces from different historical style periods. Emphasizes solo and ensemble playing. Teaches rest stroke, free stroke, arpeggio technique, proper posture and positioning, reading music in 2 parts, and basic expressive interpretation. (30-0)		
MUS 138	Music Voice Class	2 Sem Hrs
Emphasizes the vocal instrument and how it functions in singing. Practices techniques to improve the voice, rehearsing in both ensemble and solo settings, culminating in class performance at the end of the semester. Teaches vocal terminologies and explores a variety of musical styles. (30-0)		
MUS 146	Chorale I	2 Sem Hrs
Provides an opportunity for ensemble singing in 2, 3, 4, or more parts. Develops repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice and performance techniques. Credit may be earned in MUS 146 or MUS 154 but not both. (30-0)		
MUS 147	Chorale II	2 Sem Hrs
Prerequisites: MUS 146. Provides a continuing opportunity for ensemble singing in 2, 3, 4, or more parts. Develops repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice and performance techniques. Credit may be earned in MUS 147 or MUS 155 but not both. (30-0)		
MUS 148	Chorale III	2 Sem Hrs
Prerequisites: MUS 147. Provides a continuing opportunity for ensemble singing in 2, 3, 4, or more parts. Develops repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice and performance techniques. Credit may be earned in MUS 158 or MUS 148 but not both. (30-0)		
MUS 149	Chorale IV	2 Sem Hrs
Prerequisites: MUS 148. Provides a continuing opportunity for ensemble singing in 2, 3, 4, or more parts. Develops repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice and performance techniques. (30-0)		
MUS 155	Choir II	2 Sem Hrs
Prerequisites: MUS 154 or Instructor permission. Provides a continuing opportunity for ensemble singing in 2, 3, 4, or more parts. Develops further repertoire, musicianship, and proper vocal techniques through reading choral music, extending vocal range, pitch matching, proper practice, and performance techniques. (30-0)		

MUS 171 Applied Music Piano Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (15-0)

MUS 172 Applied Music Piano Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (15-0)

MUS 173 Applied Music Instrumental Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (15-0)

MUS 174 Applied Music Instrumental Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (15-0)

MUS 175 Applied Music Voice Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Develops the voice through repertoire, proper vocal techniques, warm-ups to extend vocal range and pitch matching, and works on proper practice and performance techniques. (15-0)

MUS 176 Applied Music Voice Minor--Freshman 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (15-0)

MUS 181 Applied Music Piano Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (30-0)

MUS 182 Applied Music Piano Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (30-0)

MUS 183 Applied Music Instrumental Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (30-0)

MUS 184 Applied Music Instrumental Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (30-0)

MUS 185 Applied Music Voice Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (30-0)

MUS 186 Applied Music Voice Major--Freshman 2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester. (30-0)

MUS 190 Chamber Choir I 2 Sem Hrs
Prerequisite: Audition and instructor permission. Specializes in performing literature of various musical periods and genre that is appropriate for small chamber vocal ensembles. Emphasizes the further learning and development of music reading skills, performance practices, listening skills, knowledge of choral literature and healthy singing techniques. Credit may be earned in MUS190 or MUS164, but not both. (30-0)

MUS 191 Chamber Choir II 2 Sem Hrs
Prerequisite: MUS 190, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical periods and genre that are appropriate for small chamber vocal ensembles. Emphasizes the further learning and development of music reading skills, performance practices, listening skills, knowledge of choral literature and healthy singing techniques. Credit may be earned in MUS 191 or MUS165, but not both. (30-0)

MUS 192 Chamber Choir III 2 Sem Hrs
Prerequisite: MUS 191, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical periods and genre that are appropriate for small chamber vocal ensembles. Emphasizes the further learning and development of music reading skills, performance practices, listening skills, knowledge of choral literature and healthy singing techniques. (30-0)

MUS 193 Chamber Choir IV 2 Sem Hrs
Prerequisite: MUS 192, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical periods and genres that are appropriate for small chamber vocal ensembles. Emphasizes the further learning and development of music reading skills, performance practices, listening skills, knowledge of choral literature and healthy singing techniques. (30-0)

MUS 194 Jazz Singers I 2 Sem Hrs
Prerequisites: Audition and instructor permission. Specializes in performing literature of various musical styles related to Jazz, Pop, Blues, Rock, and other popular genres. Develops a knowledge base of choral literature and performance practices as related to Jazz and Pop choral styles. Credit may be earned in MUS 194 or MUS 156, but not both. (30-0)

MUS 195 Jazz Singers II 2 Sem Hrs
Prerequisite: MUS 194, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical styles related to Jazz, Pop, Blues, Rock, and other popular genres. Develops a knowledge base of choral literature and performance practices as related to Jazz and Pop choral styles. Credit may be earned in MUS 195 or MUS 157, but not both. (30-0)

MUS 196 Jazz Singers III 2 Sem Hrs
Prerequisite: MUS 195, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical styles related to Jazz, Pop, Blues, Rock, and other popular genres. Develops a knowledge base of choral literature and performance practices as related to Jazz and Pop choral styles. Credit may be earned in MUS 196 or MUS 256, but not both. (30-0)

MUS 197 Jazz Singers IV 2 Sem Hrs
Prerequisite: MUS 196, Audition and instructor permission. Provides a continuing opportunity to perform literature of various musical styles related to Jazz, Pop, Blues, Rock, and other popular genres. Develops a knowledge base of choral literature and performance practices as related to Jazz and Pop choral styles. (30-0)

MUS 240 Guitar Ensemble 2 Sem Hrs
Prerequisite: A minimum grade of "C" in either MUS 135 or MUS 137. Performs as a member of a guitar ensemble using proper tone and technique to create meaningful artistic interpretations of the music. Reads music effectively and understands a musical score. Communicates effectively with other musicians in a group setting. Course designed for guitarists who have experience with classical guitar technique and music reading skills. (30-0)

MUS 271 Applied Music Piano Minor--Sophomore 1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 272	Applied Music Piano Minor--Sophomore	1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		
MUS 273	Applied Music Instrumental Minor Sophomore	1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		
MUS 274	Applied Music Instrumental Minor--Sophomore	1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		
MUS 275	Applied Music Voice Minor--Sophomore	1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		
MUS 276	Applied Music Voice Minor--Sophomore	1 Sem Hr
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		
MUS 281	Applied Music Piano Major--Sophomore	2 Sem Hrs
MUS 282	Applied Music Piano Major--Sophomore	2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		
MUS 283	Applied Music Instrumental Major--Sophomore	2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		
MUS 284	Applied Music Instrumental Major--Sophomore	2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		
MUS 285	Applied Music Voice Major--Sophomore	2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		
MUS 286	Applied Music Voice Major--Sophomore	2 Sem Hrs
Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.		

MUS 290-299 Special Projects in Music Sem Hr

Nursing PT

NPT 102ALW Nursing Fundamentals Lab 2.3 Sem Hrs

Prerequisite: Current validation for ADN program documentation of Basic Nursing Skills - Part-time Track. Concurrent enrollment in NPT 102AW. Emphasizes critical thinking related to application of specific concepts and nursing process as the framework for nursing diagnosis and practice skills. Requires mastery of specified clinical skills/procedures in a simulated laboratory setting. Introduces the inpatient clinical setting. For successful completion, a grade of at least "C" must be earned in both this course and NPT 102AW, the concurrent theory course (lab grade will be the same as theory grade). (0-103.5)

NPT 102AW Nursing Fundamentals 3.7 Sem Hrs

Prerequisite: Current validation for ADN program documentation of Basic Nursing Skills - Part-time Track. Concurrent enrollment in NPT 102ALW. Introduces the competencies of the ADN: Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry. Identifies the role of professional nursing practice based on principles of the biological and social sciences. Introduces the concepts of gerontological nursing and addresses ethical and legal responsibilities of nursing practice. For successful completion, a grade of at least a "C" must be earned in this course and NPT 102ALW, the concurrent lab course (lab grade will be same as theory grade). (56-0)

NPT 103LW Care of the Aging Adult Lab 1.3 Sem Hrs

Prerequisite: NPT 102AW and NPT 102ALW with a minimum grade of "C." Concurrent enrollment in NPT 103W. Continues to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing basic nursing care for older adults in a variety of environments and health care settings. For successful completion, a grade of at least a "C" must be earned in both this course and concurrent theory course NPT 103W (lab grade will be same as theory grade). (0- 58.5)

NPT 103W Care of the Aging Adult 1.7 Sem Hrs

Prerequisite: NPT 102AW and NPT 102ALW with a minimum grade of "C." Concurrent enrollment in NPT 103LW. Builds on concepts of gerontological nursing and provides a theoretical framework to further students understanding of content. For successful completion, a grade of at least a "C" must e earned in both his course and NPT 103LW, the concurrent lab course (lab grade will be the same as theory grade). (26-0)

NPT 115LW Maternity Nursing Lab 1 Sem Hr

Prerequisite: NPT 102AW, NPT 102ALW, NPT 102BW, NPT 102BLW or NUR 101AW, NUR 101ALW, NUR 101BW and NUR 101BLW with minimum grade of "C" (2.0). Concurrent enrollment in NPT 115W. Provides clinical opportunities to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity, and Spirit of Inquiry while providing nursing care for women and newborns in selected maternity health care settings. For successful completion, a grade of at least a "C" must be Earned in this course and NPT 115W, the concurrent theory course (lab grade will be the same as theory grade). Credit may be earned in NPT 115LW or NUR 115LW, but not both. (0-45)

NPT 115W Maternity Nursing 2 Sem Hrs

Prerequisite: NPT 102AW, NPT 102ALW, NPT 102BW and NPT 102BLW or NUR 101AW, NUR 101ALW, NUR 101BW and NUR-101BLW with a minimum grade of "C" (2.0). Concurrent enrollment in NPT 115LW. Discusses nursing care interventions to promote a safe childbirth experience, and teaching for the childbearing family. Focuses on distinguishing normal from abnormal conditions during the reproductive, antepartum, intrapartum, newborn and postpartum periods. For successful completion, a grade of at least a "C" must be earned in this course and NPT 115LW, the concurrent lab course (lab grade will be the same as theory grade). Credit may be earned in NPT 115W or NUR 115W, but not both. (30-0)

NPT 116LW Pediatric Nursing lab 1 Sem Hr
 Prerequisite: NPT 102AW, NPT 102ALW, NPT 102BW and NPT 102BLW or NUR 101AW, NUR 101ALW, NUR 101BW and NUR 101BLW with a minimum grade of "C" (2.0). Concurrent enrollment in NPT 116W. Provides clinical opportunities to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing nursing care for children in selected pediatric health care settings. For successful completion, a grade of at least a "C" must be earned in this course and NPT 116W, the concurrent theory course (lab grade will be the same as theory grade). Credit may be earned in NPT 116LW or NUR 116LW, but not both. (0-45)

NPT 116W Pediatric Nursing 2 Sem Hrs
 Prerequisite: NPT 102AW, NPT 102ALW, NPT 102BW, and NPT 102BLW or NUR 101AW, NUR 101ALW, NUR 101BW, and NUR 101BLW with minimum grade of "C" (2.0). Concurrent enrollment in NPT 116LW. Discusses nursing care of the pediatric population and family unit during wellness and illness. Focuses on distinguishing normal from abnormal conditions, and principles of growth and development as relates to the pediatric population. For successful completion, a grade of at least a "C" must be earned in both this course NPT 116LW, the concurrent lab course (lab grade will be the same as theory grade). Credit may be earned in NPT 116W or NUR 116W, but not both. (30-0)

NPT 119LW Mental Health Nursing Lab 1 Sem Hr
 Prerequisite: NPT 102AW and NPT 102ALW with a minimum grade of "C." Concurrent enrollment in NPT 119. Provides clinical opportunities to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing nursing care for patients in selected mental health settings. Students will focus on the application of therapeutic communication techniques, psychiatric assessment skills, integration of psychopharmacology and the nursing process. For successful completion, a grade of at least a "C" must be earned in this course and concurrent theory course NPT 119W (lab grade will be the same as theory grade). (0-45)

NPT 119W Mental Health Nursing 2 Sem Hrs
 Prerequisite: NPT 102AW and NPT 102ALW with a minimum grade of "C." Concurrent enrollment in NPT 119L. Provides a theoretical framework for students to understand mental health and mental illness. Emphasizes use of the nursing process to provide and manage care for individuals of various ages and cultural groups with psychiatric disorders and chemical dependence. For successful completion, a grade of at least a "C" must be earned in this course and concurrent lab course NPT 119LW (lab grade will be the same as theory grade). (30-0)

NPT 260ALW Basic Nursing Care of the Adult Client Lab A 2.0 Sem Hrs
 Prerequisite: NPT 115W, NPT 115LW, NPT 116W, and NPT 116LW or NUR 115W, NUR 115LW, NUR 116W, NUR 116LW, NUR 119W, and NUR 119LW with a minimum grade of a "C" (2.0). Concurrent enrollment in NPT 260AW. Provides clinical opportunities to build on the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while caring for multiple patients in the adult acute care setting. For successful completion, a grade of at least a "C" must be earned in both this course and NPT 260AW, the concurrent theory course (lab grade will be the same as theory grade). (0-90)

NPT 260AW Basic Nursing Care of the Adult Client A 4 Sem Hrs
 Prerequisite: NPT 115W, NPT 115LW, NPT 116W, and NPT 116LW or NUR 115W, NUR 115LW, NUR 116W, NUR 116LW, NUR 119W, and NUR 119LW with a minimum grade of a "C" (2.0). Facilitates learning opportunities in the areas of gastroenterology, hematology, musculoskeletal, oncology and respiratory with emphasis on critical thinking in basic to complex nursing care. For successful completion, a grade of at least a "C" must be earned in both this course and NPT 260ALW, the concurrent lab course (lab grade will be the same as theory grade). (60-0)

NPT 260BLW Basic Nursing Care of the Adult Client B 2 Sem Hrs
 Prerequisite: NPT 260AW and NPT 260ALW with a minimum grade of "C" (2.0). Concurrent enrollment in NPT 260BW. Provides clinical opportunities to build on the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity, and Spirit of Inquiry while caring for multiple patients in the adult acute care setting. For successful completion, a grade of at least a "C" must be earned in both this course and NPT 260BW, the concurrent theory course (lab grade will be same as theory grade). (0-90)

NPT 260BW Basic Nursing Care of the Adult Client B 4 Sem Hrs
 Prerequisite: NPT 260AW and NPT 260ALW with a minimum grade of a "C" (2.0). Concurrent enrollment in NPT 260BLW. Facilitates learning opportunities in the areas of cardiology, endocrine, nephrology, neurology and reproductive in the adult with emphasis on critical thinking in basic to complex nursing care. Management principles introduced. For successful completion, a grade of at least a "C" must be earned in both this course and NPT 260BLW, the concurrent lab course (lab grade will be same as theory grade). (60-0)

NPT 270LW Nursing Care and Management Throughout the Health Continuum Lab 5 Sem Hrs
 Prerequisite: NPT 260BW and NPT 260BLW with a minimum grade of "C" (2.0). Concurrent enrollment in NPT 270W. Provides an opportunity to enhance entry level nursing practice when managing a group of adult patients in the acute care setting. Emphasizes specific knowledge, skills and attitudes of the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry necessary for entry level nursing practice. For successful completion, a grade of at least a "C" must be earned in both this course and NPT 270W, the concurrent theory course (lab grade will be same as theory grade). (0-225)

NPT 270W Nursing Care and Management Throughout the Health Continuum Lab 1 Sem Hr
 Prerequisite: NPT 260BW and NPT 260BLW with minimum grade of "C" (2.0). Concurrent enrollment in NPT 270LW. Provides opportunities to enhance entry level nursing knowledge when managing a group of adult patients in the acute care setting. For successful completion, a grade of at least a "C" must be earned in this course and NPT 270LW, the concurrent lab course (lab grade will be the same as theory grade). (15-0)

NPT 290-299 Special Projects in Nursing RN Part Time

Nursing Transition

NT 160LW Transitional Skills and Concepts Lab 1.0 Sem Hr
 Prerequisite: Completion of NT 161 and NT 162 with a minimum grade of "C" (2.0). Concurrent enrollment in NT 160W. Provides opportunities to practice specific nursing procedures in a simulated and clinical laboratory setting. Requires demonstration of skill competencies and documentation for successful course completion. For successful completion, a grade of at least "C" must be earned in this course and concurrent theory course NT 160W (lab grade will be same as theory grade). (0-45)

NT 160W Transitional Skills and Concepts 1.0 Sem Hr
 Prerequisite: Completion of NT 161 and NT 162 with a minimum grade of "C" (2.0). Concurrent enrollment in NT 160L. Focuses on basic nursing skills/procedures and related communication necessary for function in the ADN role. This theory course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and concurrent lab course NT 160LW (lab grade will be same as theory grade). (15-0)

NT 161W Transition - Basic Principles of Adult Care 2 Sem Hrs

Prerequisite: LPN or Paramedic Licensure, 1 year full time equivalent work experience and validation for Transition program. (LPN option: no work experience required if student has maintained a GPA of 3.0 or greater throughout the ADN prerequisite core courses and PNE clinical courses at Delta College, and meets all other prerequisite requirements). Includes the competencies of the ADN: Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry. Solidifies knowledge of the nursing process, aseptic technique, nutritional requirements, medication administration, fluid and electrolyte regulation, and acid-base balance. (30-0)

NT 162W Role and Function of the RN 2 Sem Hrs

Prerequisite: LPN or Paramedic Licensure, 1 year full time equivalent work experience and validation for Transition program. (LPN option: no work experience required if student has maintained a GPA of 3.0 or greater throughout the ADN prerequisite core courses and PNE clinical courses at Delta, and meets all other prerequisite requirements.) Includes the competencies of the ADN: Human Flourishing, Nursing Judgment, Professional Identity, and Spirit of Inquiry. Discusses the history of nursing and RN role development. Emphasizes communication, ethical and legal implications for nursing, and cultural diversity. (30-0)

NT 163LW Advanced principles of Adult Care for the LPN/Licensed Paramedic Lab 3 Sem Hrs

Prerequisite: NT 161W and NT 162W with minimum grade of "C" (2.0) for both LPNs and Paramedics; NT 160W and NT 160LW for Paramedics with minimum grade of "C" (2.0). Concurrent enrollment in NT 163W. Provides clinical opportunities to build on the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while caring for multiple patients in the adult acute care setting. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in both this course and concurrent theory course NT 163W (lab grade will be same as theory grade). (0-135)

NT 163W Advanced Principles of Adult Care for the LPN/Licensed Paramedic 3 Sem Hrs

Prerequisite: NT 161W and NT 162W with minimum grade of "C" for both LPNs and Paramedics; NT 160W and NT 160LW for Paramedics with minimum grade of "C" (2.0). Concurrent enrollment in NT 163LW. Facilitates learning opportunities in the areas of cardiopulmonary, endocrine, gastroenterology, hematology, musculoskeletal, nephrology, neurology and reproductive in the adult with emphasis on critical thinking in basic to complex nursing care. For successful completion, a grade of at least a "C" must be earned in both this course and concurrent lab course NT 163LW (lab grade will be same as theory grade). (45-0)

NT 215LW Transition-Maternity Nursing Lab 1 Sem Hr

Prerequisite: NT 163W, NT 163LW or NUR 101BW, NUR 101BLW, or NPT 102BW, NPT 102BLW with a minimum grade of "C" (2.0). Concurrent enrollment in NT 215W. Provides clinical opportunities to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing nursing care for women and newborns in selected maternity health care settings. For successful completion, a grade of at least a "C" must be earned in this course and concurrent theory course NT 215W (lab grade will be the same as theory grade). Credit may be earned in either NUR 115LW, NPT 115LW or NT 215LW, but not all (0-45)

NT 215W Transition-Maternity Nursing 2.0 Sem Hrs

Prerequisite: NT 163W, NT 163LW or NUR 101BW, NUR 101BLW, or NPT 102BW, NPT 102BLW with a minimum grade of "C" (2.0). Concurrent enrollment in NT 215LW. Discusses nursing care interventions to promote a safe childbirth experience and teaching for the childbearing family. Focuses on distinguishing normal from abnormal conditions during the reproductive, antepartum, intrapartum, newborn and postpartum periods. For successful completion, a grade of at least a "C" must be earned in this course and concurrent lab course NT 215LW (lab grade will be same as theory grade). (30-0)

NT 216LW Transition-Pediatric Nursing Lab 1 Sem Hr

Prerequisite: NUR 101BW, NUR 101BLW or NPT 102BW, NPT 102BLW, or NT 163W, NT 163LW with minimum grade of "C" (2.0). Concurrent enrollment in NT 216W. Provides clinical opportunities to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing nursing care for children in selected pediatric health care settings. For successful completion, a grade of at least a "C" must be earned in this course and concurrent theory course NT 216W (lab grade will be the same as theory grade). (0-45)

NT 216W Transition-Pediatric Nursing 2 Sem Hrs

Prerequisite: NUR 101BW, NUR 101BLW, or NPT 102BW, NPT 102BLW, or NT 163W, NT 163LW with a minimum grade of "C" (2.0). Concurrent enrollment in NT 216LW. Discusses nursing care of the pediatric population and family unit during wellness and illness. Focuses on distinguishing normal from abnormal conditions, and principles of growth and development as relates to the pediatric population. For successful completion, a grade of at least a "C" must be earned in both this course and concurrent lab course NT 216LW (lab grade will be the same as theory grade). (30-0)

NT 219LW Transition-Mental Health Nursing Lab 1 Sem Hr

Prerequisite: NUR 101BW, NUR 101BLW or NT 163W, NT 163LW with a minimum grade of "C" (2.0). Concurrent enrollment in NT 219W. Provides clinical opportunities to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing nursing care for patients in selected mental health settings. Students will focus on the application of therapeutic communication techniques, psychiatric assessment skills, integration of psychopharmacology and the nursing process. For successful completion a grade of at least a "C" must be earned in this course and concurrent theory course NT 219W (lab grade will be the same as theory grade). Credit may be earned in NT 219LW or NUR 119LW, but not both. (0-45)

NT 219W Transition-Mental Health Nursing 2 Sem Hrs

Prerequisite: NUR 101BW, NUR 101BLW or NT 163W, NT 163LW with a minimum grade of "C" (2.0). Concurrent enrollment in NT 219LW. Provides a theoretical framework for students to understand mental health and mental illness. Emphasizes use of the nursing process to provide and manage care for individuals of various ages and cultural groups with psychiatric disorders and chemical dependence. For successful completion, a grade of at least a "C" must be earned in this course and concurrent lab course NT 219LW (lab grade will be the same as theory grade). Credit may be earned in NT 219W or NUR 119W but not both. (30-0)

NT 290-299 Special Projects in Nursing Transition

Nursing RN FT

NUR 101ALW Nursing Fundamentals Lab 1.5 Sem Hrs

Prerequisite: Current validation for ADN program documentation of Basic Nursing Skills - Full-time Track. Concurrent enrollment in NUR 101AW. Emphasizes critical thinking related to application of specific concepts and nursing process as the framework for nursing diagnosis and practice skills. Requires mastery of specified clinical skills/procedures in a simulated laboratory setting. For successful completion, a grade of at least a "C" must be earned in both this course and concurrent theory course NUR 101AW (lab grade will be the same as theory grade). (0-67)

NUR 101AW Nursing Fundamentals 3.5 Sem Hrs

Prerequisite: Current validation for ADN program documentation of Basic Nursing Skills - Full-time Track. Concurrent enrollment in NUR 101ALW. Introduces the competencies of the ADN: Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry. Identifies the role of professional nursing practice based on principles of the biological and social sciences. Addresses ethical and legal responsibilities of nursing practice. For successful completion, a grade of at least a "C" must be earned in this course and concurrent lab course NUR 101ALW (lab grade will be same as theory grade). (52-0)

NUR 101BLW Care of the Aging Adult Lab **2.0 Sem Hrs**
Prerequisite: NUR 101AW and NUR 101ALW with a minimum grade of "C". Concurrent enrollment in NUR 101BW. Begins to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing nursing care for older adults in a variety of environments and health care settings. For successful completion, a grade of at least a "C" must be earned in both this course and concurrent theory course NUR 101BW (lab grade will be same as theory grade). (0-92)

NUR 101BW Care of the Aging Adult **2.0 Sem Hrs**
Prerequisite: NUR 101AW and NUR 101ALW with a minimum grade of "C". Concurrent enrollment in NUR 101BLW. Introduces concepts of gerontological nursing. For successful completion, a grade of at least a "C" must be earned in both this course and concurrent lab course NUR 101BLW (lab grade will be the same as theory grade). (30-0)

NUR 115LW Maternity Nursing Lab **1 Sem Hr**
Prerequisite: NUR 101BW, NUR 101BLW or NPT 102BW, NPT 102BLW with a minimum grade of "C" (2.0). Concurrent enrollment in NUR 115W. Provides clinical opportunities to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing nursing care for women and newborns in selected maternity health care settings. For successful completion, a grade of at least a "C" must be earned in this course and concurrent theory course NUR 115W (lab grade will be the same as theory grade). Credit may be earned in only one of NUR 115LW, NPT 115LW or NT 215LW. (0-45)

NUR 115W Maternity Nursing **2 Sem Hrs**
Prerequisite: NUR 101BW, NUR 101BLW or NPT 102BW, NPT 102BLW with a minimum grade of "C" (2.0). Concurrent enrollment in NUR 115LW. Discusses nursing care interventions to promote a safe childbirth experience, and teaching for the childbearing family. Focuses on distinguishing normal from abnormal conditions during the reproductive, antepartum, intrapartum, newborn and postpartum periods. For successful completion, a grade of at least a "C" must be earned in this course and concurrent lab course NUR 115LW (lab grade will be the same as theory grade). Credit may be earned in only one of NUR 115W or NPT 115W or NT 215W. (30-0)

NUR 116LW Pediatric Nursing Lab **1 Sem Hr**
Prerequisite: NUR 101BW, NUR 101BLW or NPT 102BW, NPT 102BLW, or NT 163W, NT 163LW with minimum grade of "C" (2.0). Concurrent enrollment in NUR 116W. Provides clinical opportunities to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing nursing care for children in selected pediatric health care settings. For successful completion, a grade of at least a "C" must be earned in this course and concurrent theory course NUR 116W (lab grade will be the same as theory grade). Credit may be earned in only one of NUR 116LW, NPT 116LW, or NT 216LW. (0-45)

NUR 116W Pediatric Nursing **2 Sem Hrs**
Prerequisite: NUR 101BW, NUR 101BLW or NPT 102BW, NPT 102BLW, or NT 163W, NT 163LW with minimum grade of "C" (2.0). Concurrent enrollment in NUR 116LW. Discusses nursing care of the pediatric population and family unit during wellness and illness. Focuses on distinguishing normal from abnormal conditions, and principles of growth and development as relates to the pediatric population. For successful completion, a grade of at least a "C" must be earned in both this course and concurrent lab course NUR 116LW (lab grade will be same as theory grade). Credit may be earned in only one of NUR 116W, NPT 116W, or NT 216W. (30-0)

NUR 119LW Mental Health Nursing Lab **1 Sem Hr**
Prerequisite: NUR 101BW, NUR 101BLW or NT 163W, NT 163LW with a minimum grade of "C" (2.0). Concurrent enrollment in NUR 119W. Provides clinical opportunities to apply the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing nursing care for patients in selected mental health settings. Students will focus on the application of therapeutic communication techniques, psychiatric assessment skills, integration of psychopharmacology and the nursing process. For successful completion, a grade of at least a "C" must be earned in this course and concurrent theory course NUR 119W (lab grade will be the same as theory grade). Credit may be earned in NUR 119LW or NT 219LW, but not both. (0-45)

NUR 119W Mental Health Nursing **2 Sem Hrs**
Prerequisite: NUR 101BW, NUR 101BLW or NT 163W, NT 163LW with a minimum grade of "C" (2.0). Concurrent enrollment in NUR 119LW. Provides a theoretical framework for students to understand mental health and mental illness. Emphasizes use of the nursing process to provide and manage care for individuals of various ages and cultural groups with psychiatric disorders and chemical dependence. For successful completion, a grade of at least a "C" must be earned in this course and concurrent lab course NUR 119LW (lab grade will be the same as theory grade). Credit may be earned in NUR 119W or NT 219W, but not both. (30-0)

NUR 240LW Basic Nursing Care of the Adult Client Lab **4.3 Sem Hrs**
Prerequisite: NUR 115W, NUR 116W, NUR 119W and NUR 115LW, NUR 116LW, NUR 119LW or NPT 115W, NPT 115LW, NPT 116W and NPT 116LW with minimum grade of a "C" (2.0). Concurrent enrollment in NUR 240W. Provides clinical opportunities to build on the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while caring for multiple patients in the adult acute care setting. For successful completion a grade of at least a "C" must be earned both in this course and concurrent theory course NUR 240W (lab grade will be the same as theory grade). (0-195)

NUR 240W Basic Nursing Care of the Adult Client **4.7 Sem Hrs**
Prerequisite: NUR 115W, NUR 116W, NUR 119W and NUR 115LW, NUR 116LW, NUR 119LW or NPT 115W, NPT 115LW, NPT 116W and NPT 116LW with minimum grade of a "C". Concurrent enrollment in NUR 240LW. Facilitates learning opportunities in the areas of cardiopulmonary, endocrine, gastroenterology, hematology, musculoskeletal, nephrology, neurology and reproductive in the adult with emphasis on critical thinking in basic to complex nursing care. For successful completion a grade of at least a "C" must be earned in both this course and concurrent lab course NUR 240LW (lab grade will be the same as theory grade). (70-0)

NUR 250LW Nursing Care and Management Throughout the Health Continuum Lab **5 Sem Hrs**
Prerequisite: NUR 240W, NUR 240LW or NT 215W, NT 216W, NT 219W and NT 215LW, NT 216LW, NT 219LW with minimum grade of "C" (2.0). Concurrent enrollment in NUR 250W. Provides an opportunity to enhance entry level nursing practice when managing a group of adult patients in the acute care setting. Emphasizes specific knowledge, skills and attitudes of the ADN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry necessary for entry level nursing practice. For successful completion, a grade of at least a "C" must be earned in this course and concurrent theory course NUR 250W (lab grade will be same as theory grade). (0-225)

NUR 250W Nursing Care and Management Throughout the Health Continuum **4 Sem Hrs**
Prerequisite: NUR 240W, NUR 240LW or NT 215W, NT 216W, NT 219W and NT 215LW, NT 216LW, NT 219LW with minimum grade of "C" (2.0). Concurrent enrollment in NUR 250LW. Provides opportunities to enhance entry level nursing knowledge when managing a group of adult patients in the acute care setting. For successful completion, a grade of at least a "C" must be earned in this course and concurrent lab course NUR 250LW (lab grade will be same as theory grade). (60-0)

Office Administration & Technology

OAT 105W Time Management

1 Sem Hr

Prerequisite: READING LEVEL 2 and WRITING LEVEL 3 and OAT 170 or equivalent touch typing and computer background. Explores the principles of effective time and life management. Develops skills in time management using a traditional paper planner as well as an electronic calendar. (15-0)

OAT 116 Introduction to the Medical Office

2 Sem Hrs

Prerequisite: MATH LEVEL 2 and READING LEVEL 2 and WRITING LEVEL 3. Introduces basic medical office processes. Includes medical recordkeeping, scheduling, and patient registration. Also introduces basic accounting procedures including journalizing, posting, banking, and payroll. (30-0)

OAT 151 Business Communication I

3 Sem Hrs

Prerequisite: READING LEVEL 2 and WRITING LEVEL 3; and OAT 170 or equivalent touch typing and computer background. Includes principles and composition of effective basic business letters and memos as well as accuracy in grammar, spelling, punctuation, sentence structure, and format. (45-0)

OAT 152 Business Communication II

3 Sem Hrs

Prerequisite: OAT 151 with a "C" (2.0) grade minimum. Studies effective verbal and nonverbal communication in business. Emphasizes audience reaction, logical organization, tone, clarity, and accuracy. Involves career information, the research process, and reporting. (45-0)

OAT 153 Police Report Writing

1 Sem Hr

Concurrent enrollment in CJ 101, LWT 175, and LW 280. Requires a grade of "C" (2.0) or better to complete the Basic Police Training Academy. Develops and enhances writing skills necessary to law enforcement including preparation of police reports, incident reports, summaries of witness and complaint interviews, and criminal case summaries. Credit may be earned in OSE 153 or OAT 153 but not in both. (15-0)

OAT 155W Editing

2 Sem Hrs

Prerequisite: OAT 151 and OAT 171 both with a grade of "C" or better. Develops proofreading and editing skills. Reviews business writing principles and the use of revision symbols. Emphasizes revising both format and content of business documents. Requires a service learning experience. (30-0)

OAT 160 Records Management

3 Sem Hrs

Prerequisite: READING LEVEL 2 and WRITING LEVEL 3, and OAT 170 with a minimum grade of "B" (3.0). Covers principles and practices of effective records management for manual and electronic records systems using alphabetic, numeric, and subject methods. Introduces and applies database concepts needed for understanding electronic records storage and retrieval methods including creating, modifying, sorting, searching, and printing. Explores database queries to produce tables and reports. Credit may be earned in OAT 160 or OAT 157 but not in both. (45-0)

OAT 170 Keyboarding

2 Sem Hrs

Develops the touch system of the alphabetic, numeric, symbol keys and the 10-key pad of the microcomputer keyboard. Credit may be earned in OSE 170 or OAT 170 but not in both. A waiver test is available for those who are proficient in typing. (30-0)

OAT 171 Document Processing: Beginning

3 Sem Hrs

Prerequisite: OAT 170 Keyboarding with "B" grade or better. Uses MS Word to introduce the formatting of business correspondence, reports, and tables. Develops speed and accuracy on the computer keyboard. (45-0)

OAT 172 Document Processing: Intermediate

3 Sem Hrs

Prerequisite: OAT 171 with a "C" (2.0) grade minimum. Studies the efficient use of MS Word for the production of complex business correspondence, reports, and tables. Introduces the use of appropriate punctuation in business documents. Increases speed and accuracy on the computer keyboard. (45-0)

OAT 175 Electronic Calculation

2 Sem Hrs

Prerequisite: MATH LEVEL 2 and READING LEVEL 2 and WRITING LEVEL 3. Develops the touch system of data entry for addition and incorporates the functions of addition, subtraction, multiplication, and division for various business applications using electronic calculating tools. (30-0)

OAT 243 Diagnostic Coding

3 Sem Hrs

Prerequisite: ENG 111 (or OAT 151) and HSC 105 and BIO 101W (or BIO 101 equivalent: BIO 140, or BIO 152 and 153, or BIO 171 and 172, or BIO 240 and 241); all with a minimum grade of "C". Presents terminology, classification systems, diagnosis-related groups, and data-abstrating techniques using automated and manual systems. Introduces current ICD diagnostic coding conventions and guidelines. Builds practical application skills in code assignment from brief diagnostic statements to more complex coding scenarios and case studies. Course may be taken concurrently with OAT 244 Procedure Coding. (45-0)

OAT 244 Procedure Coding

3 Sem Hrs

Prerequisite: ENG 111 (or OAT 151), and HSC 105 and BIO 101W (or BIO 101 equivalent: BIO 140, or BIO 152 and 153, or BIO 171 and 172, or BIO 240 and 241); all with a minimum grade of "C." Introduces medical record documentation, procedural groupings, procedural coding systems, and coding practice using automated and manual coding systems. Builds practical application skills in code assignment from brief procedural statements to more complex coding scenarios and case studies. Course may be taken concurrently with OAT 243 Diagnostic Coding. (45-0)

OAT 254 Medical Insurance I

3 Sem Hrs

Prerequisite: MATH LEVEL 2 and OAT 116, OAT 243, and OAT 244 all with a minimum grade of "C" (2.0). Includes diagnostic and procedure coding, basic insurance concepts, electronic medical records, terminology used by health insurance carriers, and application of the medical office revenue cycle for reimbursement. Includes insurance claims for the major insurance carriers. (45-0)

OAT 255 Medical Insurance II

3 Sem Hrs

Prerequisite: OAT 254 with a minimum grade of C (2.0). Applies medical insurance billing processes and procedures using both manual and automated systems. Includes case studies, coordination of benefits, adjustments, deductibles, co-pays, posting of payments, and resolution of reimbursement problems. (45-0)

OAT 260 Medical Transcription: Beginning

3 Sem Hrs

Prerequisite: OAT 172, HSC 105, and one of the following: BIO 101, BIO 131, BIO 132, BIO 140, BIO 152, BIO 153, BIO 160, or BIO 240; all with a minimum grade of "C" (2.0). Introduces techniques for transcribing physicians' dictation of medical progress notes, operative reports, letters, and miscellaneous medical documents. Incorporates extensive practice and application of medical terminology, spelling, grammar, punctuation, and capitalization. Uses various medical forms and covers editing techniques. (45-0)

OAT 262 Medical Transcription: Intermediate

3 Sem Hrs

Prerequisites: OAT 260 or OSE 260 or OSE 276 with a minimum grade of C (2.0). Develops increasing proficiency in medical transcription skills through the use of progressively more complex material and an emphasis on student self reliance in the production of accurate and/or mailable medical documents. (45-0)

OAT 266 Medical Office Practice 4 Sem Hrs

Prerequisites: OAT 151, OAT 172, OAT 254, and OAT 260, all with a C (2.0) grade minimum. Integrates medical office correspondence, reports, billing, appointments, medical records, medical-legal issues, priority setting, and electronic medical office management. Stresses job-task analysis and human relations. Discusses job search skills tailored to the medical field. (60-0)

OAT 268 Administrative Office Practices 3 Sem Hrs

Prerequisites: OAT 151, OAT 172, CST 151, CST 257, CST 147 all with a C (2.0) grade minimum. Develops advanced office skills through the integration of MS Office programs and the use of Internet, e-mail, and electronic calendaring activities. Provides opportunities for problem solving, decision-making, and teamwork. (45-0)

OAT 273 Document Processing: Advanced 3 Sem Hrs

Prerequisite: OAT 172 with a "C" (2.0) grade minimum. Develops proficiency in using the advanced features of MS Word to produce documents used in various business offices. Emphasizes the use of appropriate punctuation, grammar, and mechanics in business documents. Increases speed and accuracy on the computer keyboard. (45-0)

OAT 285W Office Technology 3 Sem Hrs

Prerequisite: ENG 111 or OAT 151 either with a minimum grade of "C" and a minimum of 25 credit hours completed in Administrative Assistant program or permission of instructor. Introduces students to technological innovations in business and industry. Includes topics such as electronic communication, virtual conferencing, input technologies, collaboration, and information-sharing tools. Requires on-site visitations. (45-0)

OAT 290-299 Special Projects in Office Administration and Technology

Philosophy

PHL 203W Business Ethics 3 Sem Hrs

Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Serves as a foundation for the analysis of ethical conflicts arising in modern business. Develops a practical background in critical thinking, ethical decision-making, argumentation, and the justification of ethical positions. Examines concepts, case studies and topics covering issues such as employee and employer rights, the nature of profit, the nature of the capitalist system, justice, technology, privacy, due process, affirmative action, fraud, and the environment. (45-0)

PHL 205W Media Ethics & Law 3 Sem Hrs

Studies and analyzes various ethical and legal issues within mass media. Develops analytical decision-making skills for resolving conflicts regarding privacy, confidentiality, freedom of speech, and media responsibility within the areas of various electronic media broadcasting, such as the internet, television, film, and the recording industries. (45-0)

PHL 207W Engineering Ethics 1 Sem Hr

Provides a foundation for the study and analysis of various ethical issues and dilemmas within the engineering profession. Develops analytical decision-making skills for resolving ethical conflicts. Studies topics such as ethical and legal standards, safety hazards, whistle blowing, disclosure of information, professionalism, enhancement of human welfare through engineering competence and individual ethics versus job security. (15-0)

PHL 210W Information Technology Ethics & Law 2 Sem Hrs

Studies and analyzes ethical and legal issues in the information technology industry. Develops analytical decision-making skills for issues including intellectual property, product piracy, copyright laws, pertinent court decisions, privacy and security, and software product quality. Includes special issues related to use of the Internet for information technology professionals. (30-0)

PHL 211HW Introduction to Philosophy - Honors 3 Sem Hrs

Prerequisite: READING LEVEL 4 and WRITING LEVEL 4 or permission of the Honors Office. Introduces the logic of philosophical thinking and important philosophical issues. Covers such topics as proofs for the existence of God, the ultimate nature of reality, what it means to be human, and the nature of ethics. Presents historically important Western and non-Western philosophers and their theories. Allows opportunities to read about, discuss, analyze and write about course topics. Emphasizes understanding the issues, learning the various positions and arguments taken by philosophers, critically questioning those positions and arguments, and finally, reaching and defending personal philosophical conclusions. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned PHL 211 or PHL 211H but not both. (45-0)

PHL 211W Introduction to Philosophy 3 Sem Hrs

Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Introduces the logic of philosophical thinking and important philosophical issues. Covers such topics as proofs for the existence of God, the ultimate nature of reality, what it means to be human, and the nature of ethics. Presents historically important Western and non-Western philosophers and their theories. Allows opportunities to read about, discuss, analyze and write about course topics. Emphasizes understanding the issues, learning the various positions and arguments taken by philosophers, critically questioning those positions and arguments, and finally, reaching and defending personal philosophical conclusions. Credit may be earned in PHL 211W or PHL 211HW but not in both. (45-0)

PHL 213HW Introduction to Ethics - Honors 3 Sem Hrs

Prerequisite: READING LEVEL 4 and WRITING LEVEL 4 or permission of the Honors Office. Introduces historically important ethical issues, theories, concepts and philosophers. Teaches the basics of ethical decision-making and how to apply ethical concepts, theories and methods to their own personal ethical conflicts. Allows the opportunity to investigate, write about, and discuss controversial topics such as abortion, capital punishment, euthanasia, assisted suicide, social justice, affirmative action, sexuality, and environmental ethics. Emphasizes understanding and critically questioning the theories, positions and arguments made concerning the course topics, and reaching and defending their own conclusions on those topics. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in PHL 213 or PHL 213HW but not in both. (45-0)

PHL 213W Introduction to Ethics 3 Sem Hrs

Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Introduces historically important ethical issues, theories, concepts and philosophers. Teaches the basics of ethical decision-making and how to apply ethical concepts, theories and methods to their own personal ethical conflicts. Allows the opportunity to investigate, write about, and discuss controversial topics such as abortion, capital punishment, euthanasia, assisted suicide, social justice, affirmative action, sexuality, and environmental ethics. Emphasizes understanding and critically questioning the theories, positions and arguments made concerning the course topics, and reaching and defending their own conclusions on those topics. Credit may be earned in PHL 213 or PHL 213H but not in both. (45-0)

PHL 214W Philosophy of Religion 3 Sem Hrs

Investigates the rationality of religious beliefs, and the meaning of religious practices, religious language and questions of evidence. Focuses on questions concerning proof of the existence of a deity, the problem of evil, the interpretation of mystical experience, the nature of religious faith and more. (45-0)

PHL 215W Health Care Ethics 3 Sem Hrs
Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Introduces ethical problems arising within the health care environment. Includes the identification of ethical issues, ethical decision-making using various ethical principles, and the analysis of ethical conflicts. Covers such topics as euthanasia, assisted suicide, Do Not Resuscitate (DNR) orders, definitions of death, allocation of scarce medical resources, informed consent, confidentiality, justice, access to health care and the nature of professionalism in health care. (45-0)

PHL 221 Critical Thinking and Logic 4 Sem Hrs
Development of critical thinking skills through the study of formal and informal logic. Analysis of fallacies, methods of clear argumentation, inductive logic, deductive logic and rational decision-making. Logically analyzes the use of contemporary mass media such as advertising, news media, and the internet. (60-0)

PHL 225W Philosophy and Film 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces philosophy as an academic discipline, film as an artistic and intellectual medium, and the relationship between them. Examines a wide variety of films, and the philosophical themes of the films may include the nature of reality, truth and knowledge, the existence of God, consciousness and identity, ethics, political theory, race and gender, and death. Emphasizes the interpretation, evaluation, and discussion of the philosophical aspects of films. Develops the ability to view film and other visual media with greater sophistication, and to defend personal analyses of film and philosophy, both orally and in writing. (45-0)

PHL 230 Bioethics for Nursing 2 Sem Hrs
Addresses basic ethical concepts, principles, justification, and reasoning. Applies them to ethical issues and cases involving professionalism, confidentiality, veracity, paternalism, informed consent in the context of nursing. (30-0)

PHL 240HW Social and Political Theory - Honors 3 Sem Hrs
Prerequisites: LEVEL 4 READING and LEVEL 4 WRITING or permission of the Honors office. Examines past and present political and social systems from theoretical perspective. Entails comparison and evaluation of major ideologies and philosophies of the relationship of individuals to political and social institutions. Political systems such as socialism, communism, fascism, anarchism and liberalism will be explored. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in one of the following: PHL 240HW or PHL 240W or POL 240. (45-0)

PHL 240W Social and Political Theory 3 Sem Hrs
Examines past and present political and social systems from theoretical perspective. Entails comparison and evaluation of major ideologies and philosophies of the relationship of individuals to political and social institutions. Political systems such as socialism, communism, fascism, anarchism and liberalism explored. Credit may be earned in PHL 240 or POL 240 but not in both. (45-0)

PHL 250 Philosophy of Science and Technology 3 Sem Hrs
Investigates the nature of science as social process and as product; the nature and role of creativity in scientific and technological research; the influence of society and politics on technology and scientific thinking and research; the uses of technology; myths about science and technology; the role of inductive and deductive logic in the scientific process; the nature and conditions of a good test of an hypothesis and theory; the nature of scientific evidence; science as debate in process and as established knowledge. (45-0)

PHL 255W Philosophy of Art 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2 and at least one previous Art or Philosophy course. Offers a serious philosophical investigation of the nature and value of art and theories about it. Investigates questions surrounding the history and practice of art, criticism, censorship, funding, the obligations of artists to society, the definition of art, and the standards for the evaluation of good and bad art. Develops the ability to apply classic theories to aesthetic issues and to critically assess analyses of art and aesthetics. Stresses the use of critical thinking skills in defense of personal analyses and opinions about art and aesthetic issues, both orally and in writing. (45-0)

PHL 260HW Philosophy Seminar - Honors 3 Sem Hrs
Prerequisite: LEVEL 4 READING and LEVEL 4 WRITING or permission of Honors office. Students must have completed one philosophy course. Intensive examination and critical analysis of a specific philosopher's works or a specific philosophical issue within any branch of philosophy, e.g., ethics, metaphysics, epistemology, social or political philosophy. Designed as a seminar for the advanced student. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in PHL 260 or PHL 260HW but not in both. (45-0)

PHL 260W Philosophy Seminar 3 Sem Hrs
Prerequisite: Students must have completed one philosophy course. Intensive examination and critical analysis of a specific philosopher's works or a specific philosophical issue within any branch of philosophy, e.g., ethics, metaphysics, epistemology, social or political philosophy. Designed as a seminar for the advanced student. Credit may be earned in either PHL 260W or PHL 260HW but not in both. (45-0)

PHL 290-299 Special Projects in Philosophy Sem Hr

Pharmacology

PHM 285 Pharmacology for Health Care Professionals 3 Sem Hrs
Prerequisite: Completion of BIO 152 or BIO 131 and 132 or BIO 240 and 241 with a minimum grade of C. Presents the basic foundation of pharmacology. Offers drug information in group classification format and includes drug indications, action, contraindications, side effects, implications for administration, and related client/family teaching, integrates anatomy and pathophysiology, microbiology and drug administration concepts. Credit may be earned in NUR 285 or PHM 285, but not both. (45-0)

PHM 290-299 Special Projects in Pharmacology Sem Hr

Physics

PHY 101 Applied Physics 4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 5. Introduces the basic physical principles involving mechanics, fluids, heat, conservation of energy, electricity, and sound. (60-30)

PHY 111 General Physics I 4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 8 or MATH LEVEL 6 with either trigonometry or previous physics course. Examines the basic physical principles involving mechanics, heat, and sound. (60-45)

PHY 112 General Physics II 4 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, and PHY 111 with a minimum grade of "C" (2.0). Introduces basic physical principles involving electricity, magnetism, light, and modern physics. (60-45)

PHY 211 Physics I 5 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2, and MTH 161, with a minimum grade of "C" (2.0). High school physics recommended. Examines the basic physical principles involving mechanics, heat, and sound. Meets the needs of Science and Engineering majors. (75-45)

PHY 212 Physics II 5 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2, and MTH 162 and PHY 211 both with a minimum grade of "C" (2.0). Examines the basic physical principles involving electricity, magnetism, light, and modern physics. Meets the needs of Science and Engineering majors. (75-45)

PHY 213 Physics of Special Relativity 2 Sem Hrs
Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, and PHY 111 (or PHY 211) either with a minimum grade of "C" (2.0), or permission of instructor. Explores the implications of Einstein's Special Theory of Relativity. Includes both relativistic kinematics and dynamics. Discusses concepts of time dilation, length contraction, the famous equation $E=mc^2$, and standard problems such as the Twin Paradox. (30-0)

PHY 290-299 Special Projects in Physics Sem Hr

Practical Nursing

PNE 121LW Fundamentals of Practical Nursing Lab 3 Sem Hrs
Prerequisites: Current validation for PN Program. Concurrent enrollment in PNE 121W. Introduces the PN competencies of Human Flourishing, Nursing Judgment, Professional Identity, and Spirit of Inquiry. Includes opportunities to practice clinical nursing skills and techniques in the care of adults in selected clinical facilities. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be same as theory grade). (0-135)

PNE 121W Fundamentals of Nursing 6 Sem Hrs
Prerequisites: Current validation for PN Program. Concurrent enrollment in PNE 121LW. Focuses on the Nursing Process to provide basic nursing care. Concepts include basic human needs, communication, safety, nutrition, fluid and electrolyte balance, culture, psychosocial, and health and wellness in practical nursing. This theory course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). (90-0)

PNE 122LW Care of Adult I Lab 3 Sem Hrs
Prerequisites: PNE 121W and PNE 121LW with a minimum grade of "C" (2.0). Concurrent enrollment in PNE 122W. Provides clinical opportunities to apply the PN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing care for the adult medical/surgical patient. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be the same as theory grade). (0-135)

PNE 122W Care of the Adult I 6 Sem Hrs
Prerequisites: PNE 121W and PNE 121LW with a minimum grade of "C" (2.0). Concurrent enrollment in PNE 122LW. Focuses on the study of pathophysiology and the disease process of the following body systems: Respiratory, cardiac, hemo-immune, perioperative, renal, neurological, and oncology. This theory course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). (90-0)

PNE 123LW Care of Adult II Lab 2 Sem Hrs
Prerequisites: PNE 122W and PNE 122LW with a minimum grade of "C" (2.0). Requires concurrent enrollment in PNE 123W, PNE 125W, PNE 125LW. Focuses on application of the PN competencies of Human Flourishing, Nursing Judgment, Professional Identity and Spirit of Inquiry while providing care for a group of clients and learning group dynamics. This lab course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be the same as theory grade). (0-90)

PNE 123W Care of the Adult II 2 Sem Hrs
Prerequisites: PNE 122W and PNE 122LW with a minimum grade of "C" (2.0). Concurrent enrollment in PNE 123LW, PNE 125W, PNE 125LW. Focuses on the disease process and nursing care for the patient with ear, eye, integumentary, mental health, gastrointestinal, musculoskeletal, and reproductive disease, as well as professional issues. This theory course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (lab grade will be same as theory grade). (30-0)

PNE 125LW Basic Maternal Child Lab 1 Sem Hr
Prerequisites: PNE 122W and PNE 122LW with a minimum grade of "C" (2.0). Concurrent enrollment in PNE 123W, 123LW, and 125W is required. Provides clinical and laboratory opportunities that focus on basic family centered maternity care, growth and development, and care of pediatric patients and their families while applying the PN competencies of Human Flourishing, Nursing Judgment, Professional Identity, and Spirit of Inquiry. This course has a concurrent theory course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent theory course (lab grade will be the same as theory grade). (0-45)

PNE 125W Basic Maternal Child 3 Sem Hrs
Prerequisite: PNE 122W and PNE 122LW with a minimum grade of "C" (2.0). Concurrent enrollment in PNE 123W, 123LW, and 125LW is required. Focuses on basic family centered maternity care, growth and development, care of pediatric patients and their families, assisting with attaining optimal state of wellness. This course has a concurrent lab course. For successful completion, a grade of at least a "C" must be earned in this course and its concurrent lab course (theory grade will be the same as lab grade). (45-0)

PNE 290-299 Special Projects in Practical Nursing

Political Science

POL 103HW American Politics - Honors 3 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 4 or permission of the Honors Office. Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their affect on government participation. Explores the role of citizens in a diverse democracy. Credit may be earned in any POL 103 course, any POL 104 course, or any POL 111 course but not in more than one. (This course satisfies the American Politics graduation requirement in all curricula.) (45-0)

POL 103W American Politics 3 Sem Hrs
Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their affect on government participation. Explores the role of citizens in a diverse democracy. Credit may be earned in any POL 103 course, any POL 104 course, or any POL 111 course but not in more than one. (This course satisfies the American Politics graduation requirement in all curricula.) (45-0)

POL 104HW American Politics with Project - Honors 4 Sem Hrs
Prerequisite: READING LEVEL 4 and WRITING LEVEL 4 or permission of the Honors Office. Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their effect on government participation. Explores the role of citizens in a diverse democracy. Requires participation in a 15 hour service learning project outside the classroom with a K-12 partner site, community agency or organization. Credit may be earned in any POL 103 course, any POL 104 course, or any POL 111 course but not in both. (This course satisfies the American Politics graduation requirement in all curricula.) (45-15)

POL 104W American Politics with Project 4 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Introduces the development and maintenance of the U.S. system of government. Surveys the nature of American political institutions, behavior, ideas and their structure. Explores core beliefs and their affect on government participation. Explores the role of citizens in a diverse democracy. Requires participation in a 15 hour service learning project outside the classroom with a K-12 partner site, community agency or organization. Credit may be earned in any POL 103 course, POL 104 course, or POL 111 course, but not in more than one. (This course satisfies the American Government/Foundational Civics graduation requirement in all curricula. Additionally, this meets the civic engagement graduation requirement in AA and AS degrees.) (45-15)

POL 212W State and Local Governments 3 Sem Hrs

Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Examines the development, structure, organization and problems of the state and local units of government, along with their relation to the federal government. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 215W Intro to American Political Thought and Culture 3 Sem Hrs

Prerequisite: READING LEVEL 3; or WRITING LEVEL 3; or concurrent-enrollment in WRT 098. Introduces concepts central to American political thought, philosophy, and culture. Explores topics relevant to current political events. (This course satisfies the American Government/Foundational Civics graduation requirement in all curricula) (45-0)

POL 220W Minority Group Politics 3 Sem Hrs

Prerequisite: READING LEVEL 3; or WRITING LEVEL 3; or concurrent enrollment in WRT 098. Examines the dynamics of minority group politics in the American political system. Analyzes the nature, role, techniques, and objectives of ethnic groups in the United States with special emphasis on African-Americans and Hispanics. (This course satisfies the American Politics graduation requirement in all curricula.) (45-0)

POL 221W Comparative Government 3 Sem Hrs

Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Studies major European and selected non-western political systems. Emphasizes the techniques of comparative analysis and concepts of modernization, political development, and political culture. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 222 Politics of the Middle East 3 Sem Hrs

Examines the internal and external dynamics that shape the politics, economy, and social make-up of Middle Eastern societies. Uses a multidisciplinary approach to explain and evaluate the politics of the region. (45-0)

POL 223W Judicial Process 3 Sem Hrs

Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Examines state and federal court systems, including the selection of judges, the roles of primary and secondary appellate courts in civil and criminal cases, lawyers and the organized bar, pressure groups, relations between state and federal courts, as well as the legislative and executive branches, access to courts, and judicial review. Emphasizes judicial policymaking, including constitutional law and civil liberties. (This course satisfies the American government requirement in all curricula.) (45-0)

POL 225W World Politics 3 Sem Hrs

Prerequisite: LEVEL 2 READING or LEVEL 2 WRITING or co-enrollment in ENG 98. Examines the nature and structure of world politics. Emphasizes the dynamics of conflict and cooperation, processes of foreign policy decision-making, and analytical approaches used to explain and assess how nations behave. Emphasizes the influence of contemporary issues in world politics on American government and politics. (This course satisfies the American Government graduation requirement in all curricula.) (45-0)

POL 228W Constitutional Issues 3 Sem Hrs

Prerequisite: READING LEVEL 3; or WRITING LEVEL 3; or concurrent enrollment in WRT 098. Examines civil rights/civil liberties based on the Constitution and their interpretation by the U.S. Supreme Court. Assesses controversial issues, including freedom of expression, freedom of religion, abortion, euthanasia, affirmative action, and the rights of persons accused of crime. (This course satisfies the American Government/Foundational Civics graduation requirement in all curricula) (45-0)

POL 229W Political Terrorism 3 Sem Hrs

Prerequisite: READING LEVEL 3; or WRITING LEVEL 3; or concurrent enrollment in WRT 098. Studies state- and non-state sponsored terrorism: definition, causes and motives, purposes, and nature of terrorism; tactics and weapons; objects and audiences; responses of objects and audiences: theory and case studies. (This course satisfies the American Government/Foundational Civics graduation requirement in all curricula) (45-0)

POL 232W Campaigns and Elections 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Examines state and local, congressional, and presidential campaigns. Emphasizes electoral rules; campaign organization and finance; candidate strategy; role of parties, interest groups, and media; campaign effects; and proposals for reform. (This course satisfies the American Government/Foundational Civics graduation requirement in all curricula.) (45-0)

POL 241W Contemporary Feminist Thought 3 Sem Hrs

Provides a theoretical introduction to feminist thought and relates feminist thought to American political thought and American society. (45-0)

POL 268W International Studies in Political Science 1-4 Sem Hrs

The student will elect to do either a survey study of the overall political system of a country other than the United States or an in-depth study of one or more aspects of that political system. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. (60-0)

POL 290-299 Special Projects in Political Science**Physical Science****PSC 101 Physical Science I 4 Sem Hrs**

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Physical Science is a general education science lab course in the Physics Discipline. It focuses on some general physics, meteorology, geology, and astronomy concepts. This course is a potpourri of physical science concepts that are taught in a lecture and experimental environment. Recommended for non-science majors, including education majors. (45-30)

PSC 102 Physical Science II 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2, and PSC 101. Investigates fundamental concepts of chemistry and mechanics through a hands-on, applications based approach. Includes such topics as atomic structure, periodic table, bonding, chemical reactions, intermolecular forces, organic chemistry, motion of objects, forces and how they relate to simple machines, mechanical energy, and fluid mechanics. Complements Physical Science I, PSC 101. Recommended for non-science majors, including education majors. (45-30)

Psychology

PSY 101CW Applied Psychology 3 Sem Hrs

Introduces the psychological principles and processes that can be applied to live a successful and fulfilling life. Explores social interaction, stress and health, psychological disorders and treatment, intimate relationships, and careers. Intended to only be taken in a learning community combination. Credit may be earned in PSY 101W or PSY 101CW but not both. (45-0)

PSY 101W Applied Psychology 3 Sem Hrs

Prerequisites: LEVEL 2 READING or LEVEL 2 WRITING. Introduces the psychological principles and processes that can be applied to live a successful and fulfilling life. Explores social interaction, stress and health, psychological disorders and treatment, intimate relationships, and careers. Credit may be earned in PSY 101W or PSY 101CW but not both. (45-0)

PSY 211CW General Psychology 4 Sem Hrs

Studies the scientific principles underlying behavior and mental processes by applying the major theoretical perspectives in psychology. Explores basic research methods, biopsychology, personality, learning, cognition, human development, social/cultural influences, stress and coping, perception, motivation, states of consciousness, psychological disorders and treatment. Intended to only be taken in a learning community combination. Credit may be earned in only one of the following: PSY 211W, PSY 211HW, or PSY 211CW. (60-0)

PSY 211HW General Psychology - Honors 4 Sem Hrs

Prerequisites: LEVEL 4 READING and LEVEL 4 WRITING or permission of the Honors Office. Studies the scientific principles underlying behavior and mental processes by applying the major theoretical perspectives in psychology. Explores basic research methods, biopsychology, personality, learning, cognition, human development, social/cultural influences, stress and coping, perception, motivation, states of consciousness, psychological disorders and treatment. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of the following: PSY 211W, PSY 211HW, or PSY 211CW. (60-0)

PSY 211W General Psychology 4 Sem Hrs

Prerequisites: LEVEL 2 READING and LEVEL 2 WRITING. Studies the scientific principles underlying behavior and mental processes by applying the major theoretical perspectives in psychology. Explores basic research methods, biopsychology, personality, learning, cognition, human development, social/cultural influences, stress and coping, perception, motivation, states of consciousness, psychological disorders and treatment. Credit may be earned in only one of the following: PSY 211W, PSY 211HW, or PSY 211CW. (60-0)

PSY 223W Child Psychology 3 Sem Hrs

Prerequisite: PSY 211W with grade of "C" or better. Provides a comprehensive exploration of the physical, cognitive, and social/emotional development of children from conception to the onset of adolescence. Explores the significance of childhood in the total life span. Analyzes the impact of heredity, environment, and culture on children's development, as well as the impact children have on others. (45-0)

PSY 225W Adolescent Psychology 3 Sem Hrs

Prerequisite: PSY 211W with grade of "C" or better. Provides a comprehensive exploration of the physical, cognitive, and social/emotional development of adolescents, beginning at the onset of puberty and culminating with a transition into adulthood. Explores the significance of adolescence in the total life span. Analyzes the impact of heredity, environment, and culture on adolescents' development, as well as the impact adolescents have on others. Considers the developmental tasks and personal adjustment challenges associated with adolescence. (45-0)

PSY 227W Lifespan Development 3 Sem Hrs

Prerequisite: PSY 211W with grade of "C" or better. Provides a comprehensive exploration of physical, cognitive, and social/emotional development throughout the lifespan. Analyzes the impact of heredity, environment, and culture, while considering the developmental tasks and personal adjustment challenges associated with each stage of life. (45-0)

PSY 230W Psychology of Substance Abuse 3 Sem Hrs

Prerequisite: PSY 211W with grade of "C" or better. Examines current theories explaining the origins and prevalence of substance abuse. Provides an overview of psychoactive drugs and the effects they have on the brain, thinking, and behavior. Compares contemporary approaches to substance abuse and addiction treatment. (45-0)

PSY 231W Theories of Personality 3 Sem Hrs

Prerequisite: PSY 211 with grade of "C" or better. Examines theories of personality development from a psychodynamic, social learning and humanistic perspective. Critiques individual theories regarding personality development, abnormality, psychotherapy, research, and the concept of humanity. (45-0)

PSY 235W Adult Development 3 Sem Hrs

Prerequisites: PSY 211W and PSY 223W both with grade of "C" or better. Provides a comprehensive exploration of the physical, cognitive, and social/emotional development during emerging, early, middle and late adulthood. Explores the significance of adulthood in the total life span. Analyzes the impact of heredity, environment, and culture on adults' development, as well as the impact adults have on others. (45-0)

PSY 241W Abnormal Psychology 3 Sem Hrs

Prerequisite: PSY 211 with grade of "C" or better. An examination of symptoms and treatment of psychological disorders, including the psychodynamic, behavioral, humanistic, and neuroscience views of abnormal behavior. (45-0)

PSY 251W Social Psychology 3 Sem Hrs

Prerequisite: PSY 211W with a minimum grade of "C." Studies psychological factors underlying social behavior including conformity, group processes/interaction, aggression, altruism, interpersonal attraction, attitude formation, prejudice, discrimination, social perception, persuasion, conflict resolution, person perception, and diversity. Focuses on fundamental ways in which social interactions shape thoughts, beliefs, emotions and behaviors. (45-0)

PSY 290-299 Special Projects in Psychology Sem Hr

PSY 300W Interviewing, Counseling, and the Helping Relationship 3 Sem Hrs

Prerequisite: ENG 111 with a "C" or better or permission of instructor. Establishes beginning social work interviewing and relationship skills as well as awareness of the use of self in the helping relationship. Presents specific interviewing strategies for generalist social work practice. Includes student participation in practice sessions using role plays, videotapes and self-awareness exercises. Provides opportunities to practice formal and informal writing. Credit may be earned in PSY 300W or SOC 300W but not in both. (45-0)

Physical Therapist Assistant

PTA 101 Applied Clinical Anatomy I 2 Sem Hrs

Prerequisite: Admission to the Physical Therapist Assistant Program. Concurrent enrollment in PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A. Provides skeletal anatomy concepts necessary to implement procedures utilized in physical therapy practice. Provides the technical and data collection knowledge necessary to assist a physical therapist with goniometry. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 101LW Applied Clinical Anatomy I Lab 1 Sem Hr

Prerequisite: Admission to the Physical Therapist Assistant Program. Concurrent enrollment in PTA 101, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A. Provides the skills necessary for palpation of bony landmarks. Prepares the student to perform PROM and goniometric measurements. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-60)

PTA 102 Clinical Neuroanatomy 2 Sem Hrs

Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A, each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Provides the neuroanatomy concepts necessary to implement procedures utilized in physical therapy practice. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 105 Physical Agents I 2 Sem Hrs

Prerequisite: Admission to the Physical Therapist Assistant program. Concurrent enrollment in PTA 101, PTA 101LW, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A. Provides the theory and principles of modalities including, but not limited to, hydrotherapy, therapeutic massage, thermal agents, ultrasound, traction, intermittent compression, and cryotherapy. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 105LW Physical Agents I Lab 1 Sem Hr

Prerequisite: Admission to the Physical Therapist Assistant program. Concurrent enrollment in PTA 101, PTA 101LW, PTA 105, PTA 110, PTA 110L, ENG 113, and LW 206A. Provides the technical skills to perform modalities including, but not limited to, hydrotherapy, therapeutic massage, thermal agents, ultrasound, traction, intermittent compression, and cryotherapy. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-60)

PTA 110 Fundamentals of Patient Mobility 2 Sem Hrs

Prerequisite: Admission to the PTA program. Concurrent enrollment in PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110L, ENG 113, and LW 206A. Introduces basic principles of patient mobility. Focuses on the analysis of gait, gait training, use of assistive devices, patient transfers, postural assessment, balance and flexibility. (30-0)

PTA 110L Fundamentals of Patient Mobility Lab 1 Sem Hr

Prerequisite: Admission to the PTA program. Concurrent enrollment in PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, ENG 113, and LW 206A. Performs and instructs basic therapeutic exercise, activities of daily living, kinematic gait analysis, gross postural assessment, transfer techniques, and gait training with assistive devices. Performs physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-45)

PTA 120 Orthopedic Rehabilitation 2 Sem Hrs

Prerequisites: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A each with a "C" (2.0) minimum grade in each. Concurrent enrollment in PTA 102, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Introduces common orthopedic injuries and disabilities that affect adults and children. Provides entry-level principles and rationale needed to administer rehabilitation exercise programs for orthopedic conditions. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 120L Orthopedic Rehabilitation Lab 1 Sem Hr

Prerequisites: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Provides entry-level technical skills needed to administer rehabilitation exercise programs for orthopedic conditions. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-60)

PTA 121 Human Development I - Topics in Pediatrics 1 Sem Hr

Prerequisites: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Provides theory in and observation of normal and abnormal physical development from birth through adolescence. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (15-0)

PTA 123LW Clinical Medicine Lab .5 Sem Hr

Prerequisites: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Exposes the student to health care practices performed in the acute care environment. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction of the physical therapist. (0-15)

PTA 123W Clinical Medicine 2.5 Sem Hrs

Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A each with a "C" (2.0) minimum grade in each. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B. Introduces acute and chronic pathological conditions resulting from disease or injury that are commonly treated in physical therapy. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction of the physical therapist. (45-0)

PTA 124 PTA Clinic I 2 Sem Hrs

Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 125, PTA 125LW, and LWA 206B. Structures clinical experience to provide the opportunity to observe and assist with physical therapy procedures. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-80)

PTA 125 Applied Clinical Anatomy II 1 Sem Hr

Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125LW, and LWA 206B. Provide muscular anatomy concepts necessary to implement procedures utilized in physical therapy practice. Provides the technical and data collection knowledge necessary to assist a physical therapist with manual muscle testing. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (15-0)

PTA 125LW Applied Clinical Anatomy II Lab 1 Sem Hr

Prerequisite: PTA 101, PTA 101LW, PTA 105, PTA 105LW, PTA 110, PTA 110L, ENG 113, and LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, and LWA 206B. Provides the technical and data collection skills necessary to assist a physical therapist with goniometry and muscle testing. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-60)

PTA 205 Physical Agents II .5 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, PTA 216, PTA 222, and LWA 206C. Provides the theory and principles necessary to understand electrical stimulation and other advanced modalities. Prepares the student to provide physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (12-0)

PTA 205L Physical Agents II Lab .5 Sem Hr
Prerequisite: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 209, PTA 209L, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, PTA 216, PTA 222, and LWA 206C. Provides the technical skills necessary to perform electrical stimulation and other advanced modalities. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-12)

PTA 209 Fundamentals of Pediatric Rehabilitation .5 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 123, PTA 123L, PTA 124, PTA 125, PTA 125L and LWA 206B each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 209L, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, PTA 216, PTA 222, and LWA 206C. Introduces students to various aspects of pediatric rehabilitation techniques for orthopedic and neurological disorders. Assesses abnormal behavior and discusses treatment techniques to enhance motor functions. Covers required documentation, legislative issues, and current topics related to providing physical therapy services for children. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (12-0)

PTA 209L Fundamentals of Pediatric Rehabilitation Lab .5 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 123, PTA 123L, PTA 124, PTA 125, PTA 125L and LWA 206B each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 209L, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, PTA 216, PTA 222, and LWA 206C. Prepares students to perform pediatric rehabilitation techniques for orthopedic and neurological disorders. Improves independence and function of the child by assessing equipment needs, utilizing adaptive devices, specific positioning techniques, and utilizing treatment techniques to enhance motor functions. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-12)

PTA 210 Neuro-Rehabilitation Techniques 2 Sem Hrs
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123, PTA 123L, PTA 124, PTA 125, PTA 125L, and LWA 206B with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210L, PTA 213, PTA 213L, PTA 214, PTA 216, PTA 222, and LWA 206C. Studies the advanced theory and treatment of patients with diagnosis of stroke, spinal cord injury, traumatic brain injury, as well as the treatments of sensor motor facilitation and inhibition techniques. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 210LW Neuro-Rehabilitation Techniques Lab 1 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123, PTA 123L, PTA 124, PTA 125, PTA 125L, and LWA 206B each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 213, PTA 213L, PTA 214, PTA 216, PTA 222, and LWA 206C. Prepares student to utilize and perform treatment techniques for patients diagnosed with stroke, spinal cord injury, and traumatic brain injury. Prepares students to perform sensory motor facilitation and inhibition techniques. (0-60)

PTA 213 Orthotics and Prosthetics .5 Sem Hr
Prerequisites: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210L, PTA 213L, PTA 214, PTA 216, PTA 222 and LWA 206C. Promotes understanding of orthotic and prosthetic technologies. Studies appropriate use of these technologies. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (12-0)

PTA 213L Orthotics and Prosthetics Lab .5 Sem Hr
Prerequisite: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210L, PTA 213, PTA 214, PTA 216, PTA 222 and LWA 206C. Prepares student to utilize orthotics and prosthetics, as well as to instruct patients to use this equipment. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-15)

PTA 214W PTA Clinic 2 3 Sem Hrs
Prerequisite: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210L, PTA 213, PTA 213L, PTA 216, PTA 222 and LWA 206C. Structures clinical experience to provide the opportunity to observe and assist physical therapy procedures. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (0-160)

PTA 216W Introduction to Evidence Based Practice 1 Sem Hr
Prerequisite: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210L, PTA 213, PTA 213L, PTA 214, PTA 222 and LWA 206C. Introduces the use of Evidence Based Practice (EBP) in Physical Therapy. Focuses on defining EBP, designing clinical questions and searching common physical therapy research databases to support clinical decision making in the treatment of patients. Presents and utilizes basic research designs. Includes practical application of a clinical situation. (15-0)

PTA 221 Clinical Seminar 2 Sem Hrs
Prerequisite: PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, PTA 216W, PTA 222, and LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 224W and PTA 225. Studies professional, ethical, legal, and diversity issues related to clinical practice. Analyzes continuity and change in the health care system. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care, under the direction and supervision of the physical therapist. (30-0)

PTA 222 Human Development II - Topics in Geriatrics 2 Sem Hrs
Prerequisite: PTA 102, PTA 120, PTA 120L, PTA 121, PTA 123W, PTA 123LW, PTA 124, PTA 125, PTA 125LW, and LWA 206B, each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210L, PTA 213, PTA 213L, PTA 214, PTA 216, and LWA 206C. Provides Theory and clinical application of normal and abnormal physical and cognitive development in the aging process and focus on a geriatric client. Prepares the student to perform physical therapy intervention as part of a physical therapist's plan of care under the direction and supervision of the physical therapist. (30-0)

PTA 224W PTA Clinic 3 9 Sem Hrs
Prerequisite: PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, PTA 216, PTA 222, and LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 221 and PTA 225. Structures clinical experience to provide opportunity for integration and refinement of the knowledge and skills necessary for entry level employment. (0-480)

PTA 225 Topics in Manual Therapy 1 Sem Hr
Prerequisites: PTA 205, PTA 205L, PTA 209, PTA 209L, PTA 210, PTA 210LW, PTA 213, PTA 213L, PTA 214W, PTA 216W, PTA 222, and LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in PTA 221 and PTA 224W. The study of common manual therapy techniques used in Physical Therapy to treat soft tissue and joint structures for the purpose of modulating pain, increasing range of motion, inducing relaxation, improving soft tissue extensibility and/or stability, facilitating movement and improving function. (7.5-7.5)

PTA 290-299 Special Projects in Physical Therapy Assisting

Quality Assurance

QA 110 Quality Problem Solving Tools 1 Sem Hr
Develops basic skills in the use of charts and graphs as tools used in solving problems in a Quality Management organization. Demonstrates twenty-six tools such as Pareto chart, flow charts, cause/effect diagrams, control charts, etc. (15-0)

QA 120 Quality & Productivity Management 2 Sem Hrs
Personnel in management and supervisory positions will demonstrate the skills and insight needed to manage effectively in a quality-conscious work environment. This is done through the study of the philosophies of Deming, Juran, Crosby, Shainin, Taguchi, and with statistical problem solving techniques. (30-0)

QA 124 Quality Systems I 3 Sem Hrs
Prerequisite: QA 120 or permission of instructor. Personnel in management and supervisory positions will demonstrate the skills to effectively plan and implement a quality system and show its relationship to other functions in an organization. This is done through the study of the Quality Function and its applications applied to service, business and industry. (45-0)

QA 125 Quality System Design 3 Sem Hrs
Introduces quality assurance methods used by manufacturing and service industries. Examines the concept of a system and identifies techniques used to reduce variation and optimize the system so it produces its intended outcome. Includes quality philosophy, statistical methods for process improvement, variation reduction methods, statistical process control and problem-solving, processes capabilities and data acquisition. (45-0)

QA 126 Quality Systems II 3 Sem Hrs
Prerequisite: QA 120. Demonstrates the skills to interface internal quality systems with external quality systems. Emphasizes applications for service, business and industry. (45-0)

QA 140 Measurement Systems 3 Sem Hrs
Introduces skill development in measurement analysis and measurement systems management. Emphasizes industrial measurement issues involving mechanical gauging and inspection instruments. Determines gauge and dimensional relationships along with describing the various types of industrial gauges and their usage. Explores gauge management issues and ISO 9000 requirements. Credit may be earned in either QA 140 or SKQA 140 but not in both. (45-0)

QA 244 Statistical Quality Improvement 3 Sem Hrs
Prerequisite: MTH 208W or MTH 209W. Develops skill in the use of control charts to monitor processes. Selects proper control chart, constructs the control chart from process data, and analyzes it for statistical stability. Includes both attribute and variable data control charts to determine process capability. (45-0)

QA 250 Introduction to Six Sigma 3 Sem Hrs
Prerequisite: QA 244. Introduces the first step toward successful implementation of Six Sigma improvement methodology, concepts, and language. Presents the Define-Measure-Analyze-Improve-Control methodology of improving existing processes and looking for incremental improvement. Uses case studies and examples drawn from healthcare, service, business process, and manufacturing applications. Addresses the integration of Lean Six Sigma. (45-0)

QA 290-299 Special Projects in Quality Assurance

Radiography

RAD 100 Basic Science of Medical Imaging 2 Sem Hrs
Prerequisites: Admission to Radiography program. Concurrent enrollment in RAD 105, RAD 108W, RAD 130, and LW 206A. Presents the basic operations of generating equipment including electrodynamics, electromagnetism, rectification, and circuitry related to the production of x-radiation. (30-0)

RAD 105 Fundamentals of Radiography 4 Sem Hrs
Prerequisite: Admission to the Radiography Program. Concurrent enrollment in RAD 100, RAD 108W, RAD 130, LW 206A. Provides the fundamental theory and skills related to the production of x-radiation. Emphasizes the basic components of radiographic equipment, the characteristics of radiation, and image formation. Includes methods of control of radiation and image recording systems. (30-30)

RAD 108W Introduction to Healthcare and Patient Care 3 Sem Hrs
Prerequisite: Admission to Radiography Program. Concurrent enrollment in RAD 100, RAD 105, RAD 130, and LW 206A. Develops knowledge and skills in basic concepts of patient care. Includes emergency care procedures, infection control, patient safety and transfers, communication, and patient education. Provides an introduction to medical imaging and its role in patient diagnosis and care and basic imaging concepts, systems and techniques. Includes the structure and operation of health care organization and health care distribution. (45-0)

RAD 110 Principles of Radiographic Exposure 2.5 Sem Hrs
Prerequisites: RAD 100, RAD 105, RAD 108W, RAD 130, LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 120W, RAD 122, RAD 150, RAD 205W, RAD 210W, RAD 215, LWA 206B, LWA 206C. Provides the theory and skills necessary to analyze the diagnostic quality of a radiograph and effectively manipulate exposure variables to produce a diagnostic radiograph. (15-23)

RAD 120W Principles of Radiation Biology and Protection 2 Sem Hrs
Prerequisites: RAD 100, RAD 105, RAD 108W, RAD 130, LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 110, RAD 122, RAD 150, RAD 205W, RAD 210W, RAD 215, LWA 206B, LWA 206C. Examines biological effects of radiation on cells, organs, and systems. Emphasizes methods of practice including radiation exposure standards and radiation monitoring. (30-0)

RAD 122 Digital Imaging 1 Sem Hr
Prerequisites: RAD 100, RAD 105, RAD 108W, RAD 130, LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 110, RAD 120W, RAD 150, RAD 205W, RAD 210W, RAD 215, LWA 206B, LWA 206C. Provides an introduction to basic digital imaging concepts, systems, and techniques needed to provide quality diagnostic radiographs. (15-0)

RAD 130 Radiographic Procedures 1 2.5 Sem Hrs

Admission to the Radiography Program. Concurrent enrollment in RAD 100, RAD 105, RAD 108W, LW 206A. Introduces the basic terminology of radiographic positioning. Provides the knowledge and skill necessary to perform radiographic procedures of the chest, upper and lower limbs. Includes pediatric, geriatric, surgical, and trauma applications for these procedures. (15-23)

RAD 135 Clinical Education 1 6 Sem Hrs

Prerequisites: RAD 110, RAD 120W, RAD 122, RAD 150, RAD 205W, RAD 210W, RAD 215, LWA 206B, LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 140W, RAD 230, RAD 235, RAD 264. The first phase with structured clinical experience necessary to perform radiographic procedures. The students will become familiar with the radiology department and hospital policies and procedures. Provides students with the opportunities to apply, practice, and perfect the skills needed to function as a radiographer. Up to 25% of the student's scheduled time may be on off-shift rotations as scheduled by the clinical education center. A minimum of one week on afternoon shift and one weekend will be scheduled during this clinical sequences. (0-360)

RAD 140W Clinical Seminar 1 1 Sem Hr

Prerequisites: RAD 110, RAD 120W, RAD 122, RAD 150, RAD 205W, RAD 210W, RAD 215, LWA 206B, LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 135, RAD 230, RAD 235, RAD 264. Provides the student with opportunities to enhance the clinical education experience. Emphasizes the correlation of all aspects of radiographic procedures. Includes radiographic image critique. (15-0)

RAD 150 Radiographic Procedures 2 2.5 Sem Hrs

Prerequisites: RAD 100, RAD 105, RAD 108W, RAD 130, LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 110, RAD 120W, RAD 122, RAD 150, RAD 205W, RAD 210W, RAD 215, LWA 206B, LWA 206C. Continues radiographic positioning and provides the knowledge and skill necessary to perform radiographic procedures of the abdomen and gastrointestinal, biliary, and urinary systems. Includes a review of fluoroscopy principles and equipment. Instruction on the principles and skills necessary to perform venipuncture. (15-23)

RAD 160 Clinical Education 2 10 Sem Hrs

Prerequisites: RAD 135, RAD 140W, RAD 230, RAD 235, RAD 264 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 165W, RAD 212. The second phase with structured clinical experience necessary to perform radiographic procedures. The students will continue to work within the radiology department and hospital. Provides students with the opportunities to apply, practice and perfect the skills needed to function as a radiographer. Up to 25% of the student's scheduled time may be on off-shift rotations as scheduled by the clinical education center. A minimum of one week on afternoon shift and one weekend will be scheduled during this clinical sequence. (0-600)

RAD 165W Clinical Seminar 2 2 Sem Hrs

Prerequisites: RAD 135, RAD 140W, RAD 230, RAD 235, RAD 264 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 160, RAD 212. Provides the student with opportunities to enhance the clinical education experience. Emphasizes the correlation of all aspects of radiographic procedures. Includes radiographic image critique. Includes a review of radiographic concepts and theories and their clinical application. (30-0)

RAD 205W Pharmacology In Imaging 1 Sem Hr

Prerequisites: RAD 100, RAD 105, RAD 108W, RAD 130, LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 110, RAD 120W, RAD 122, RAD 150, RAD 210W, RAD 215, LWA 206B, LWA 206C. Presents the basic principles of pharmacology in imaging. Includes the basic techniques of venipuncture and the administration of diagnostic contrast agents and intravenous medications. (15-0)

RAD 210W Pathology in Radiography 1 Sem Hr

Prerequisites: RAD 100, RAD 105, RAD 108W, RAD 130, LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 110, RAD 120W, RAD 122, RAD 150, RAD 205W, RAD 215, LWA 206B, LWA 206C. Provides an overview of the pathological processes that occur as a consequence of aging, disease, heredity, or trauma including signs, symptoms, and clinical manifestations. (15-0)

RAD 212 Advanced Imaging Equipment 1 Sem Hr

Prerequisites: RAD 135, RAD 140W, RAD 230, RAD 235, RAD 264 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 160, RAD 165W. Presents the basic principles of operation of CT, MRI, PET, Ultrasound, Nuclear Medicine, Fluoroscopy, Mammography, Tomography, Radiation Therapy, Bone Densitometry, Angiography and Subtraction/Duplication equipment. (15-0)

RAD 215 Radiographic Procedures 3 2.5 Sem Hrs

Prerequisites: RAD 100, RAD 105, RAD 108W, RAD 130, LW 206A each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 110, RAD 120W, RAD 122, RAD 150, RAD 205W, RAD 210W, LWA 206B, LWA 206C. Continues radiographic positioning. Provides the knowledge and skill necessary to perform radiographic procedures of the shoulder girdle, bony thorax, cervical spine, thoracic spine, lumbar spine, pelvis, hips, and femur. Includes pediatric, geriatric, surgical, and trauma applications for these procedures. (15-23)

RAD 220 Clinical Education 3 10 Sem Hrs

Prerequisites: RAD 160, RAD 165W, RAD 212 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 225W, RAD 258W. The third phase with structured clinical experience necessary to perform radiographic procedures. The students will continue to work within the radiology department and hospital, striving to demonstrate ability as an entry level radiographer. Provides students with the opportunities to apply, practice and perfect the skills needed to function as a radiographer. Up to 25% of the student's scheduled time may be on off-shift rotations as scheduled by the clinical education center. A minimum of one week on afternoon shift and one weekend will be scheduled during this clinical sequence. Students will have an opportunity to rotate through optional modalities and departments based on interest, availability, and competency level. (0-600)

RAD 225W Clinical Seminar 3 2 Sem Hrs

Prerequisites: RAD 160, RAD 165W, RAD 212 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 220, RAD 258W. Provides the student with opportunities to enhance the clinical education experience. Emphasizes the correlation of all aspects of radiographic procedures. Includes radiographic image critique. (30-0)

RAD 230 Quality Improvement in Imaging 1 Sem Hr

Prerequisites: RAD 110, RAD 120W, RAD 122, RAD 150, RAD 205W, RAD 210W, RAD 215, LWA 206B, LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 135, RAD 140W, RAD 235, RAD 264. Introduces the principles of continuous quality improvement in radiology. Includes risk management, problem identification and analysis and quality assurance of the imaging systems (15-0)

RAD 235 Radiographic Procedures 4 2.5 Sem Hrs

Prerequisites: RAD 110, RAD 120W, RAD 122, RAD 150, RAD 205W, RAD 210W, RAD 215, LWA 206B, LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 135, RAD 140W, RAD 230, RAD 264. Continues radiographic positioning. Provides the knowledge and skill necessary to perform radiographic procedures of the cranium and facial regions. Includes pediatric, geriatric, surgical, and trauma applications for these procedures. (15-23)

RAD 245 Clinical Education 4 7 Sem Hrs

Prerequisite: RAD 205, RAD 210, RAD 212, RAD 215, RAD 220, and RAD 225 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 230, RAD 235, RAD 258W, and RAD 264. Provides structured clinical experience necessary to perform radiographic procedures of the skull and facial cranium. Requires weekend and evening assignments. (0-395)

RAD 258W Radiography Capstone Seminar 2 Sem Hrs
Prerequisites: RAD 160, RAD 165W, RAD 212 each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 220, RAD 225W. Provides strategies and opportunities to enhance the likelihood of success on the national ARRT registry examination. Employment search strategies are discussed and practiced including the writing of a professional cover letter and resume. (30-0)

RAD 264 Cross Sectional Imaging 1 Sem Hr
Prerequisites: RAD 110, RAD 120W, RAD 122, RAD 150, RAD 205W, RAD 210W, RAD 215, LWA 206B, LWA 206C each with a "C" (2.0) minimum grade. Concurrent enrollment in RAD 135, RAD 140W, RAD 230, RAD 235. Introduces sectional anatomy as imaged in modalities such as Computed Tomography, Magnetic Resonance Imaging (MRI), and Positron Emission Tomography (PET). (15-0)

RAD 290-299 Special Projects in Radiography Sem Hr

Residential Construction

RC 101 Construction Print Interpretation 3 Sem Hrs
Instruction in this course includes trade terminology and description of the various views of working drawings, pictorial drawings, and the basic procedures in development of these drawings. Also included is the interpretation of specifications and job information as they pertain to construction and layout. Credit may be earned in either RC 101 or SKCT 111 but not both. (45-0)

RC 104 Construction Lab 3 Sem Hrs
Studies the care and use of woodworking tools. Includes tool terminology, purpose and uses of various tools and the functional principles of woodworking hand tools, including those which are power or pneumatically driven. (15-60)

RC 106 Concrete and Foundations 3 Sem Hrs
Prerequisite: ARC 101. Studies practical methods and procedures of preparing and setting concrete forms for such areas as basement floors, garage floors, driveways, sidewalks, patios, etc. (45-15)

RC 108 Construction Safety 2 Sem Hrs
Studies Occupational Safety and Health Administration (OSHA) safety and health standards required of residential builders. Includes training in first aid and cardio pulmonary resuscitation (CPR) to treat on-the-job injuries. Students will produce a MIOSHA approved safety program. (30-0)

RC 114 Framing Square 4 Sem Hrs
Uses the framing square and speed square in construction. Credit may be earned in either RC 114 or SKCT 114 but not both. (60-0)

RC 120 Construction Management Portfolio 1 Sem Hr
Prerequisite: Instructor permission required to register. Assists with the documentation of 2000 hours of recent and relevant work experience in the construction industry. This documentation will include an inventory of developed job skills and employer verification. Includes the development of a construction industry targeted resume and how to use this information in a job search. (15-0)

RC 200W Construction Contracting Rules and Regulations 3 Sem Hrs
Prerequisite: A "C" grade or better in a college level composition I course. Introduces contracting laws, rules, and regulations as they apply to residential builders. Covers builder's law, builder's license, insurance, deeds and abstracts, loans and land development. (45-0)

RC 201 Rough and Outside Framing 4 Sem Hrs
Prerequisite: RC 104. Provides instruction in the techniques of construction used in all phases of framing and exterior finishing. Credit may be earned in either RC 201 or SKCT 201 but not in both. (30-60)

RC 203 Residential CAD 3 Sem Hrs
Introduces residential design using a 3-D drawing program. Moves from basic plan replication to the designing, drawing, and plotting of a set of construction drawings. (15-60)

RC 204 Inside Finishing and Hardware 4 Sem Hrs
Prerequisites: RC 104 and RC 201. Includes principles of interior construction, joinery and installation, and finishing of all types of interior trim. (45-45)

RC 205 Cabinet Making and Millwork 5 Sem Hrs
Prerequisite: RC 104. Studies the construction, placement, and installation procedures of cabinets used in residential buildings. (45-60)

RC 206 Plumbing, Heating, and Electrical Equipment 3 Sem Hrs
Designed to study equipment installation as it pertains to construction and carpentry. Credit may be earned in RC 206 or ARC 111 but not in both. (45-0)

RC 290-299 Special Projects in Residential Construction

Reading

RDG 093W Effective Reading and Vocabulary Development 4 Sem Hrs
Prerequisite: READING LEVEL 1. Designed for those whose academic and personal needs call for building skills, confidence, greater comprehension, and enjoyment of reading. Includes techniques for understanding and remembering a wider reading vocabulary. Applies reading strategies to a wide variety of reading materials under the guidance of an instructor. Does not earn credit towards graduation. Credit may be earned in only one of ENG 093 or RDG 093 or ENG 108. (60-0)

RDG 097W Academic Reading 3 Sem Hrs
Prerequisite: READING LEVEL 2. Designed for those who are good readers, but who still need to make improvements in reading, vocabulary, and critical thinking to become successful and independent college students. Provides instruction and practice in study-reading college level texts; opportunities for self-selected research, reading and sharing of information; and the chance to select and read imaginative materials for pleasure and increased self-confidence as a reader. Does not earn credit towards graduation. Credit may be earned in only one of: ENG 097, RDG 097, or ENG 109. (45-0)

Respiratory Care

RT 100 Basic Sciences for Respiratory Care 2 Sem Hrs
Prerequisite: MATH LEVEL 4 or MTH 097 with "C" (2.0) minimum grade within the past five years. Introduces the basic principles of math, chemistry, and physics utilized in the field of respiratory care. Emphasizes the physical and chemical principles relating to liquids and gases as they provide a foundation for the study of respiratory care. May include a required job shadow experience to become validated. This may require that students complete an online training session, have proof of a negative TB tine test and other supporting documentation before gaining access to the agency. (30-0)

RT 117 Basic Respiratory Care I 3 Sem Hrs
Prerequisite: Admission to the Respiratory Care Program. RT 118, RT 121, RT 126, and RT 131 must be taken concurrently. Presents the theory and application of skills required for the delivery of the basic respiratory care modalities of medical gases, humidity, and aerosol therapy. Emphasizes treatment of adult and pediatric patients with application to specific disease states. (39-12)

RT 118 Basic Respiratory Care II 3 Sem Hrs
Prerequisite: Admission to the Respiratory Care Program. RT 117, RT 121, RT 126, and RT 131 must be taken concurrently. Presents the theory and application of skills required to control transmissible diseases, to perform an appropriate physical assessment of the respiratory care patient, and for the delivery of the basic respiratory care modalities of pharmacology, incentive spirometry, and chest physical therapy. Emphasizes treatment related to adult and pediatric patients with application to the specific disease states. (38-14)

RT 121 Orientation to RC 2 Sem Hrs
Prerequisite: Admission to the Respiratory Care Program. RT 117, RT 118, RT 126, and RT 131 must be taken concurrently. Introduces the role of a professional respiratory therapist from an historical, professional, and management perspective as well as the clinical setting. Includes CPR for the Professional Rescuer. (15-30)

RT 126 Clinical Education I 3 Sem Hrs
Prerequisite: Admission to the Respiratory Care program. RT 117, RT 118, RT 121, and RT 131 must be taken concurrently. Provides the opportunity in the clinical setting to apply and practice skills learned. (0-120)

RT 131 Artificial Airway Care and Manual Ventilation 2 Sem Hrs
Prerequisite: Admission to the Respiratory Care Program. RT 117, RT 118, RT 121, & RT 126 must be taken concurrently. Presents the theory and application of skills required to provide care of the patient with an artificial airway and manual ventilation. (26-8)

RT 132 Adult Ventilatory Care 3 Sem Hrs
Prerequisites: RT 117, RT 118, RT 121, RT 126, and RT 131. RT 135, RT 146, and RT 149 must be taken concurrently. Presents the theory and application of skills required to provide adult mechanical ventilatory care. (39-12)

RT 135 Diagnostics and Special Procedures 4 Sem Hrs
Prerequisites: RT 117, RT 118, RT 121, RT 126, & RT 131. RT 132, RT 146, and RT 149 must be taken concurrently. Presents the theory and application of skills required to perform arterial and mixed venous blood sampling and analysis, basic pulmonary function testing, and to interpret the results of and make recommendations for care based on these diagnostic procedures. Emphasizes the respiratory therapist's role in chest and lateral neck x-ray evaluation, bronchoscopy, and chest tube drainage. (54-12)

RT 146 Clinical Education II 6 Sem Hrs
Prerequisites: RT 117, RT 118, RT 121, RT 126 and RT 131. RT 132, RT 135, and RT 149 must be taken concurrently. Provides the opportunity to apply clinical skills with emphasis on the critically ill patient. (0-240)

RT 149 Clinical Ed 2 Seminar 1 Sem Hr
Prerequisites: RT 117, RT 118, RT 121, RT 126, and RT 131. RT 132, RT 135, and RT 146 must be taken concurrently. Provides the opportunity to integrate the classroom and clinical activities of the concurrent courses in a seminar format. (15-0)

RT 150 Cardiovascular Evaluation and Monitoring 3 Sem Hrs
Prerequisites: RT 132, RT 135, RT 146, & RT 149. Presents the theory and application of skills required to provide adult hemodynamic and ECG monitoring and interpretation. (41-8)

RT 207 Cardiopulmonary Pathophysiology 3 Sem Hrs
Prerequisites: RT 150 or RT 105. Concurrent enrollment in RT 212, RT 214, RT 216, RT 226, RT 229, RT 231. Presents the cause, clinical presentation, and treatment of common cardiopulmonary diseases. (45-0)

RT 211 Advanced Cardiopulmonary Physiology 3 Sem Hrs
Prerequisites: RT 207, RT 212, RT 214, RT 216, RT 226, RT 229, RT 231. Concurrent enrollment in RT 234, RT 240, RT 244, RT 246. must be taken concurrently. Presents the study of advanced cardiopulmonary physiology as the basis for evaluation and treatment of cardiopulmonary pathophysiology. (45-0)

RT 212 Advance Ventilator Management 2 Sem Hrs
Prerequisites: RT 150; or RT 150. Concurrent enrollment in RT 207, RT 214, RT 216, RT 226, RT 229, RT 231. Presents the advanced theory and application of skills required to monitor, manage, and wean patients on mechanical ventilation. (26-8)

RT 214 Seminar I 1 Sem Hr
Prerequisites: RT 150. Concurrent enrollment in RT 207, RT 212, RT 216, RT 226, RT 229, RT 231. Provides an opportunity to research, write a report, and make an oral presentation on an area of interest in the field of respiratory care. (15-0)

RT 216 Rehabilitation and Home Care 1 Sem Hr
Prerequisites: RT 150. Concurrent enrollment in RT 207, RT 212, RT 214, RT 226, RT 229, RT 231. Presents the theory and application of skills required to provide pulmonary rehabilitation and home care. (13-4)

RT 226 Clinical Education III 6 Sem Hrs
Prerequisites: RT 150. Concurrent enrollment in RT 207, RT 212, RT 214, RT 216, RT 229, RT 231. Provides the opportunity to review the theory and practice clinical skills. (0-240)

RT 229 Clinical Education 3 Seminar 1 Sem Hr
Prerequisites: RT 150. Concurrent enrollment in RT 207, RT 212, RT 214, RT 216, RT 226, RT 231. Provides the opportunity to integrate the classroom and clinical activities of the concurrent courses in a seminar format. (15-0)

RT 231 Maternal and Neonatal Respiratory Care 2 Sem Hrs
Prerequisites: RT 150. Concurrent enrollment in RT 207, RT 212, RT 214, RT 216, RT 226, RT 229. Presents the theory and application of maternal and neonatal respiratory care. Emphasizes fetal development, the birth process, cardiopulmonary changes following birth, and neonatal cardiopulmonary pathophysiology. (27-6)

RT 234 Seminar II 1 Sem Hr
Prerequisites: RT 207, RT 212, RT 214, RT 216, RT 226, RT 229, RT 231. Concurrent enrollment in RT 211, RT 240, RT 244, RT 246. Provides an opportunity to research, write a report, and make an oral presentation on any area of interest in the field of respiratory care. (15-0)

RT 240 Advanced Respiratory Care Pharmacology 3 Sem Hrs
Prerequisites: RT 207, RT 212, RT 214, RT 216, RT 226, RT 229, RT 231. Concurrent enrollment in RT 211, RT 234, RT 244, RT 246. Presents the theory and application of advanced respiratory care pharmacology as it relates to cardiopulmonary pathophysiology. (45-0)

RT 244 Optional Rotation/Special Project 1 Sem Hr
Prerequisites: RT 207, RT 212, RT 214, RT 216, RT 226, RT 229, RT 231. Concurrent enrollment in RT 211, RT 234, RT 240, RT 246. Provides an opportunity to choose a rotation or special project to meet their personal goals in the field of respiratory care. Emphasizes the design, completion, and summarization of the project. (15-0)

RT 246 Comprehensive Clinical Education 8 Sem Hrs
Prerequisites: RT 207, RT 212, RT 214, RT 216, RT 226, RT 229, RT 231. Concurrent enrollment in RT 211, RT 234, RT 240, RT 244. Provides the opportunity to apply all of the knowledge and skills presented in the program. Emphasizes the integration of all levels of knowledge and skills as a prelude to functioning as a graduate respiratory therapist. (0-320)

Interdisciplinary Science

SCI 099 Foundation For Science 4 Sem Hrs

Develops competency in content and skills in college science classes and intended for students unsure of adequacy of preparation for college science. Includes use of scientific method, measurement practices in metrics, communicating and presenting scientific data, classification techniques, spatial relationships, and maps. Presents methods for improving science study skills, note taking, data recording and analysis. (Cannot be counted toward Natural Science or lab credit.) Does not earn credit toward graduation. Credit may be earned in SCI 099 or in SCI 100 but not both. (75-15)

SCI 107 Introduction to Technical Programs in Science 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides an overview of technical programs in science (including chemical technology (CT), chemical process technology (CPI), environmental technology (ENV), and water environmental technology (WET)) and associated responsibilities. Focuses on the role and responsibilities of the chemical technician, chemical process operator, environmental technician and water-wastewater technician in the workforce. Introduces concepts of work requirements, identifies industry and process types, and provides an overview of laws affecting the job and the industry. Discusses aptitudes and attitudes necessary for success in science curricula as well as means of continuing professional and personal growth. Credit may be earned in SCI 107 or CT 101 but not both. (15-0)

SCI 150 Foundations of Scientific Research 2 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2 and Instructor permission. Provides the opportunity to carry out scientific research, integrating critical thinking with scientific principles, application of mathematics and professional skills. Explores academic skills and strategies needed for learning and success in science, technology, engineering and mathematics courses. Encourages writing, use of algebraic expression and computation to enhance learning. Requires completion of a final research report to include problem identification, procedure documentation, data analysis, and conclusions. (30-0)

SCI 249 Scientific Research Development 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2 and Faculty permission based on the student's science background and knowledge. Exposure to the process of developing and refining a scientific question as the basis for scientific experimentation. Identification of an area of scientific interest, background knowledge in the field and research methods. Development of a research proposal that involves research and rationale, models of data that will be produced, budgetary evaluation, materials needed, time required and equipment to be used. Beneficial to all science majors in Biology, Chemistry, Physics and Engineering. (15-0)

SCI 249A Developing a Laboratory Based Research Project 1 Sem Hr

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2 and Instructor permission. Instructor permission is based on the student's science background and knowledge. Exposure to the process of developing and refining a scientific question as the basis for scientific experimentation. Identification of an area of scientific interest, background knowledge in the field and research methods. Development of a research proposal that involves research and rationale, models of data that will be produced, budgetary evaluation, materials needed, time required and equipment to be used. Additional emphasis on the importance of laboratory safety, regulations, procedures and personal protection equipment. Beneficial to all science majors in Biology, Chemistry, Physics and Engineering. (15-0)

SCI 250 Research Project In Science 2-6 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2 and (SCI 249 or SCI 249A) and instructor permission. Provides the opportunity to carry out original scientific research, integrating critical thinking with scientific principles and professional skills. Requires completion of a final research report which includes problem identification, procedure documentation, data analysis, and conclusions. Evaluation will be handled by the faculty and/or a team of experts. The minimum requirement is two credits. Beneficial to all science majors in Biology, Chemistry, Physics, and Engineering. (0-30-90)

SCI 290-299 Special Projects in Interdisciplinary Science

SCI 299 Food Science and Nutrition 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Recommended prerequisites are BIO 111 and CHM 111. Introduces the fundamental concepts in digestion and metabolism at the cellular, organ system and organismal levels (seeds, yeast, gold fish, and plants). Reviews and implements laboratory research techniques involved in quantitative analysis of food ingredients. Explores the following topics: Enzyme kinetics, balanced/healthy diet, physical fitness, popular weight loss programs, and food diversity and society. Includes a field trip to local restaurants. (45-0)

Surgical First Assistant

SFA 271 Advanced Surgical Anatomy 6 Sem Hrs

Prerequisite: Admission to the Surgical First Assistant Program. Concurrent enrollment in SFA 273. Introduces the relationship between anatomy and surgery, relevant physiology, and pathology utilizing the Anatomage 3D Table. (90-0).

SFA 273 Fundamental Techniques 3 Sem Hrs

Prerequisite: Admission to the Surgical First Assistant Program. Requires concurrent enrollment in SFA 271. Covers the theory and practice of pre-operative, intra-operative and post-operative functions and techniques of a Surgical First Assistant. (30-30)

SFA 275 Principles of Surgical Assisting 2 Sem Hrs

Prerequisites: SFA 271, 273 each with a minimum C (2.0) grade. Concurrent enrollment in SFA 277. Explores the interpersonal, legal and ethical aspects of surgical patient care, recognition of surgical complications, and appropriate actions. (30-0)

SFA 277 Bioscience 6 Sem Hrs

Prerequisites: SFA 271, SFA 273 each with a minimum C (2.0) grade. Concurrent enrollment in SFA 275. The course is designed to promote an understanding of microbial physiology which precedes the understanding of disease transmission and or prevention, including standard precautions and infection control. The pharmacology section of the course is designed to promote an understanding of the effects of pre, post and operative drugs. The anesthesia section of the course is designed to promote an understanding of general principles/techniques and drugs used by anesthesia and their effects on the patient. The course will also introduce the student diagnostic testing such as radiology, laboratory and cardiographics. Wound healing, All Hazards, Trauma, nutrition perioperatively, fluid and electrolyte balance and techniques in maintaining homeostasis will be reviewed (90-0).

SFA 279 Clinical Practicum 6 Sem Hrs

Prerequisites: SFA 275, SFA 277 each with a C (2.0) minimum grade. Practices basic surgical skills and techniques for Surgical First Assistants by individual assignment to a qualified preceptor surgeon who will provide direct supervision during their surgical rotation in a clinical setting (0-540)

Skilled Trades

SKCA 114 Introduction to CAD 3 Sem Hrs

Prerequisite: CST 103 suggested or basic knowledge of the Windows Operating System. Introduces 2D and 3D CAD drawing, including basic drawing and editing commands. Studies CAD systems interface, hardware, a current operating system, file management techniques, creating templates, creating and modifying geometry, dimensions and text styles, block and external reference insertion, attributes and creating tables, model space/paper space layouts, rendering and plotting techniques. Credit may be earned in only one of the following: ARC 114, CAD 114, or SKCA 114. (45-15)

SKCA 120 Introduction to CAM 3 Sem Hrs

Prerequisites: DRF 104 or DRF 105 or SKDR 101; and CST 103 or CAD 114; or permission of instructor. Introduces the basics in computer geometry creation including line, arc, curve creation and manipulation. Gives a foundation to build on advanced CAD/CAM techniques. Instructs students on file transfer systems from CAD to CAM with emphasis on proper drawing techniques, including file type-save-transfer. Projects will be drawn, checked and created on appropriate equipment. Shows links between CNC machines on the shop floor and their relationship with the design process. Generates code from created drawings to be run on Computer Numerical Controlled equipment. Credit may be earned in CAD 120 or SKCA 120 but not in both. (30-30)

Skilled Trades

SKCN 162 Computer Numerical Control Theory 4 Sem Hrs

Prerequisites: MS 181 or SKTR 181, and SKMA 103 or MTH 103 or MT 110 or Instructor permission. Uses various methods, such as a text editor, machine control unit, and CAD/CAM (MasterCam) to produce alpha-numeric code (G-Code) which will run CNC machinery. Uses blueprints to problem solve and program both point-to-point and complex contours on machining centers and turning centers. Discusses machines with 2, 3, 4, and 5 axis controls. Emphasizes common formats of programming. Discusses machine tool controllers including HAAS, Funac, and Okuma. Includes hands-on activities. Credit may be earned in either CNC 162 or SKCN 162 but not in both. (40-20)

SKCN 216 CNC with Machining Applications 4 Sem Hrs

Prerequisites: CAD 120 or SKCA 120, MS 181 or SKTR 181, CNC 162 or SKCN 162, MS 182 or SKTR 182. Emphasizes the programming methodology for producing quality parts using the CNC machines. Discusses conversational programming language with secondary emphasis on tooling setups, part setups, and machining. Utilizes horizontal and vertical machining center for program testing. Credit may be earned in SKCN 216 or CNC 216 but not both. (0-60)

SKCN 225 Mastercam 4 Sem Hrs

Prerequisites: CAD 120 or SKCA 120, and CNC 162 or SKCN 162 or instructor permission. Teaches the advanced concepts of CNC programming for lathe work, mill 3 and 4 axis work, and/or other machinery, shop floor programming, and the principles of CNC operations. Emphasizes various machining operations, accompanied by demonstrations, student programming, and hands-on setup and machine operation. Emphasizes the creation of error free part programs using the MASTERCAM programming language, including part geometry, tool path, and debugging with secondary emphasis on the downloading of a program to the turning center, mill, machining center/system, or wire EDM. Credit may be earned in either SKCN 225 or CNC 225 but not in both. (15-45)

SKCN 260 CNC Multi Axis 4 Sem Hrs

Prerequisites: SKCN 225 and SKCN 216 or instructor permission. Introduces and demonstrates concepts for multi axis machining techniques beginning with 3 plus 2 axis utilizing planes then advancing to true 5 axis machining. Import engineering drawings and electronic CAD files into CAM software to perfect geometry and tool path routines, then output G-code specific to the multi-axis machine. Individual and/or team assignments will focus on complex applications and the true efficiency of multi axis machining. Credit may be earned in CNC 260 or SKCN 260 but not both. (30-30)

SKCN 285W Computer Numerical Control Capstone 4 Sem Hrs

Prerequisites: SKCN 216, SKCN 225, and SKCN 260W, or permission of instructor. Demonstrates application-based activities that tie together a majority of your previous manufacturing learning. Incorporates skills learned in drafting, CAD, manual and CNC machine tools, and CAM to complete the capstone project. Applies critical thinking and spatial analysis abilities in the processing of this project. Applies the fundamentals of tool design and tool making, fixture building, and geometric dimensioning and tolerancing (GD&T). Credit may be earned in CNC 285W or SKCN 285W but not both. (30-60)

Skilled Trades

SKCT 101 Industrial Millwright Procedures 3 Sem Hrs

Prerequisite: SKDR 101. A course for millwrights emphasizing blueprint reading, layout of typical industrial construction, equipment, and safety and guarding. Topics covered include plan and elevation prints of building footings and foundation, mechanical services, equipment and machinery foundations, ventilation systems, catwalks, decking, platforms, and various conveying systems. (45-0)

SKCT 102 Building Materials 3 Sem Hrs

To learn development, properties, and composition of various building materials. To develop perception for economical and appropriate application of building materials. To learn various sources of technical data about residential and industrial building materials. To develop skills of building material application. (45)

SKCT 105 Building Site Surveying 3 Sem Hrs

Prerequisite: MATH LEVEL 4. Studies fundamentals of site analysis, including utility services, metes and bounds, solar access and restrictions. Teaches elements of surveying including use of instruments, leveling, measurement of angles and distances, contours, location of site elements and development of a site plan from field data. Interprets engineering surveys, introduces landscape design, and studies computer aided design examples. Credit may be earned in ARC 221 or SKCT 105, but not in both. (45-0)

SKCT 106 Concrete and Foundations 3 Sem Hrs

Prerequisite: SKCT 102. Studies practical methods and procedures of preparing and setting concrete forms for such areas as basement floors, garage floors, driveways, sidewalks, patios, etc. (45-15)

SKCT 111 Construction Print Interpretation 3 Sem Hrs

Instruction in this course includes trade terminology and description of the various views of working drawings, pictorial drawings, and the basic procedures in development of these drawings. Also included is the interpretation of specifications and job information as they pertain to construction and layout. Credit may be earned in either SKCT 111 or RC 101 but not both. (45)

SKCT 114 Framing Square 4 Sem Hrs

Uses the framing square and speed square in construction. Credit may be earned in either SKCT 114 or RC 114 but not in both. (60-0)

SKCT 201 Rough and Outside Framing 4 Sem Hrs

Prerequisite: SKCT 114 and RC 104. Provides instruction in the techniques of construction used in all phases of framing and exterior finishing. Credit may be earned in either SKCT 201 or RC 201 but not in both. (30-60)

SKCT 204 Inside Finishing and Hardware 4 Sem Hrs
Prerequisite: SKCT 114. Includes principles of interior construction, joinery and installation, and finishing of all types of interior trim. Credit may be earned in either SKCT 204 or RC 204 but not in both. (45-45)

SKCT 205 Cabinet Making and Millwork 5 Sem Hrs
Prerequisite: SKCT 204. A study is made of the construction of, the placement of, and installation procedures of cabinets used in residential and commercial building. (45-60)

Skilled Trades

SKDR 101 Blueprint Reading 3 Sem Hrs
Introduces blueprint symbols and their meaning as used in a manufacturing operation. Provides instruction and practice to develop skill in spatial visualization, sketching, orthographic projection, including auxiliary and sectional views, detail and assembly drawings, dimensioning and tolerances, title blocks, material lists, and notes for use by various manufacturing personnel and American National Standards Institute (ANSI) conventional drafting and dimensional standards. Credit may be earned in DRF 121 or SKDR 101 but not both. (45-0)

SKDR 111 Drawing II 3 Sem Hrs
Prerequisite: SKDR 101. A continuation of SKDR 101. Topics include multiview and pictorial sketching and drawing, sections drawing, dimensioning and tolerancing. (45)

SKDR 121 Descriptive Geometry 3 Sem Hrs
Prerequisite: SKDR 111. Topics include orthographic projections, primary auxiliary views and lines, planes, successive auxiliary views, piercing points, intersection of planes, and angle between planes. (45)

SKDR 128 Geometric Tolerancing 2 Sem Hrs
Prerequisite: SKDR 111. Primary emphasis is on geometric symbols used in place of written notes on industrial drawings including datums, symbols, and other items tolerancing to the geometry of the part. Credit may be earned in either SKDR 128 or DRF 128 but not both. (30)

SKDR 130 Tool and Die Design 4 Sem Hrs
Prerequisite: SKDR 111. Topics include: design of jigs and fixtures, design of gaging mechanisms, design of automatic tooling, machining cost calculations. The student will use this data to make class presentations with questions and answer sessions. (60)

SKDR 131 Pattern Design I 3 Sem Hrs
Prerequisite: SKDR 111. Course covers terms and definitions of pattern design. Students will learn how to make calculations from tables and drawing, estimate weights from pattern charts and materials codes, and sketch and detail typical pattern designs. (45-0)

SKDR 133 Fundamentals of Tooling Design 4 Sem Hrs
Prerequisite: SKDR 111 or SKCA 120. Identifies terms and definitions of tooling design. Designs tooling used in the pattern and tool and die industries using C.A.D. Calculates and designs gages, fixtures, stampings, patterns, or coreboxes and the appropriate systems essential to their production. Completes C.A.D. design and C.N.C. machining of assigned projects. (0-60)

SKDR 141 Pipe and Tube Isometrics 3 Sem Hrs
Sketching course for industrial pipefitters includes all mensurations for layout and construction. (45)

Skilled Trades

SKEL 101 Basic Electronics 6 Sem Hrs
Prerequisite: SKMA 113. The first course in a series to train electrician apprentices in the theory and application of electronics to industrial control systems. Basic electronic devices will be discussed, along with how they work and their electrical characteristics. Simple electronic circuits will be set up on trainers to illustrate the application of the devices. Troubleshooting techniques and basic test instruments will be discussed and used. (90)

SKEL 102 Industrial Electronics 4 Sem Hrs
Prerequisite: SKEL 101. The second course in a series to train electrician apprentices in the theory and application of electronics to industrial control systems. Application of basic electronic devices to industrial control systems will be discussed. Major topics will be digital solid state logic and power control using SCR's and TRIAC's. Troubleshooting techniques and basic test instruments will be discussed and used. (60-0)

SKEL 103 OSHA Safety and Michigan Electrical Laws 2 Sem Hrs
Introduces students to Occupational Safety and Health Standards (OSHA), and Michigan Electrical Laws. Provides a basic understanding of the OSHA rules and regulations, and how to locate and apply published OSHA information. Covers requirements for compliance with the State of Michigan Model Training Program for related Technical Instruction (Referred to as RTI), for Apprentice Electricians as approved by the State Electrical Board on October 2, 2009. (30-0)

SKEL 104 Electric Substation Worker Orientation 2 Sem Hrs
Provides participants with a basic understanding of a career as an electric substation worker: installing, maintaining, and troubleshooting electrical substation equipment comprised of power transformers, circuit breakers, switches, conductors, insulators, and instrumentation & controls. (18-12)

SKEL 105 Electrical Utility/Lineworker Orientation 2 Sem Hrs
Orients student to basic requirements of electrical utility/lineworker career. Requires application of safety protocol. Includes mandatory classroom and outside activities. Requires use of safety equipment and practice of all activities. (15-15)

SKEL 111 Conventional Controls 3 Sem Hrs
Prerequisite: SKMA 111. Develops competencies in reading basic electrical blueprints and troubleshooting through familiarization of basic control devices. Develops visual and analytical relationships between the device and the corresponding blueprint configurations and symbols. Discusses and applies basic troubleshooting skills using the electro-pneumatic laboratory simulation training board. (45-0)

SKEL 121 Advanced Controls I 5 Sem Hrs
Prerequisite: SKEL 102. Topics include: vacuum and vapor tubes, resistance welding controls, induction heating, motors, inverters, polyphase rectifiers, op-amps transducers, instrumentation, closed loop controls, servo systems, temperature controls, troubleshooting. (75)

SKEL 122 Advanced Controls II 4 Sem Hrs
Prerequisite: SKEL 121. Present students with basic concepts and hands-on experience with programmable digital control systems. Emphasis placed on hardware, program (software) entry, R-T-C math, documentation, trouble-shooting, communication links (generic) and peripheral equipment. (60-0)

SKEL 131 AC/DC Machinery 3 Sem Hrs
Prerequisite: SKMA 113. This course is one in a series of courses on conventional industrial controls. Topics include physics of electromotive forces, armature reaction, induction, DC generator types, AC generators, DC motors, DC motor starters, transformers, AC motors and variable speed drive systems. (45-0)

SKEL 134 Lineworker Climbing Techniques 5 Sem Hrs
Prerequisite: Current validation for Lineworker Level I program. Corequisites: SKEL 136 and SKEL 138. Provides participants with the basic knowledge and pole climbing skills necessary to progress through the Lineworker/Electrical Utility Program. Student is responsible for climbing equipment, tools, and foul weather gear as required. Cost may exceed \$200. (15-63)

SKEL 136 Utility Worker Training 5 Sem Hrs
Prerequisites: Current validation for Lineworker Level I program. Corequisites: SKEL 134 and SKEL 138. Provides participants with the basic Ground Worker/Utility Worker knowledge and skills necessary to progress through the Lineworker/Electrical Utility Program. (15-63)

SKEL 138 Lineworker Level I 6 Sem Hrs

Prerequisites: Current validation for Lineworker Level I program.
Corequisites: SKEL 134 and SKEL 136. Provides hands-on experience with energized equipment with voltages up to 240V. (30-74)

Skilled Trades

SKET 100 Electrical Calculations 2 Sem Hrs

Prerequisite: MATH LEVEL 3. Provides a foundation in the comprehension and analysis of computational skills required for the electrical field of study. Discusses scientific notation, metric prefixes, unit conversion, ratios, algebraic equations, right triangles, scalars, vectors, and graphing. Analyzes the sine wave by identifying characteristics that define the signal. Explains phasor representation of sine waves through the comparison of leading and lagging signals. Accomplishes addition and multiplication of phasors through the use of polar to rectangular conversions or right triangle calculations. Emphasizes entering calculations into a scientific calculator. Credit may be earned in SKET 100 or ET 100 but not both. (30-0)

SKET 106 Applied Electricity I 3 Sem Hrs

Prerequisite: MATH LEVEL 4. Covers basic fundamentals of electricity that include introductory schematic symbols and basic electrical circuits, Ohm's law, power formulas, series and parallel circuit rules, combination circuits, magnetism, capacitance, inductance and reactance in electrical DC and AC circuits. Applies the above fundamentals to electrical circuits and electrical schematics; calculate voltage, current, resistance and wattage as they apply in an electrical circuit; interpret electrical problems on the refrigeration or heating unit. Uses the multi meter as an Ohmmeter, as a voltmeter, and as an amp meter. Credit may be earned in one of the following: HVAC 140, RHA 140, or SKET 106. (45-0)

SKET 107 Applied Electricity II 2 Sem Hrs

Prerequisite: SKET 106 or permission of Technical, Trades, and Manufacturing Division Office. Furthers the study of electrical applications. Provides an in-depth study of frequency, peak-effective-average voltage, inductance, capacitance, three phase power, resistive circuits, coils, capacitors, lost power, and power factor correction. (30-0)

SKET 110 DC Circuits 2 Sem Hrs

SKET 100 is recommended to be taken concurrently. Introduces the basic concepts of electricity as it applies to DC circuits. Explains the basic structure of the atom and electron theory. Reviews batteries and other sources of electricity. Explains the schematic symbols for devices used in DC circuits. Determines the total resistance for series and parallel combinations of resistors. Uses Ohm's law, Kirchhoff's voltage law, and Kirchhoff's current law to solve combination DC circuits. Explains the design and application of a Wheatstone bridge. Uses meters during lab activities to apply concepts learned during class. Credit may be earned in SKET 110 or ET 110 but not both. (30-15)

SKET 120 AC Circuits 2 Sem Hrs

Prerequisite: SKET 100 and SKET 110, both with a minimum grade of "C". Introduces the basic concepts of electricity as it applies to AC circuits. Explains inductance, capacitance, and the phasor relationships between electrical signals. Explains the schematic symbols for devices used in AC circuits. Determines the total impedance for series and parallel combinations of resistors, inductors, and capacitors. Uses Ohm's law, Kirchhoff's voltage law, and Kirchhoff's current law to solve combination AC circuits using phasor analysis. Also covers include series and parallel resonant frequencies, harmonics, filters, and time constants. Uses oscilloscopes and meters during lab activities to apply concepts learned during class. Credit may be earned in SKET 120 or ET 120 but not both. (30-15)

SKET 122 Programmable Logic Controllers 5 Sem Hrs

Prerequisite: SKET 130 with a minimum grade of "C". Builds on the skills developed in SKET 130 and applies the concepts learned to Programmable Logic Controller (PLC) systems. Includes hardware topics installation procedures, wiring diagrams, system architecture, and I/O modules and software topics basic logic elements, timers, counters, program control, math functions, data manipulation, sequencers, shift registers, and file/word transfers. Includes lab activities utilizing RSLogix and RSLinx software for creating, editing, saving, downloading, and uploading programs. Applies subject material from lecture in the laboratory through the use of PLC training systems. Uses drawings to construct control circuits, analyze the process, make revisions to wiring or set-up configurations as necessary, and evaluate the proper operation of the PLC circuit. Credit may be earned in SKET 122 or ET 122 but not both. (45-30)

SKET 130 Conventional Controls 3 Sem Hrs

Prerequisites: SKET 120 with a minimum grade of "C". Identifies control devices commonly used throughout industry and relates each device to the proper symbol that is used in the electrical drawings. Develops a thorough comprehension for the devices by describing the proper operation of a control circuit that is comprised of various components that are integrated together. Applies the subject material from lecture in the laboratory through the use of electro-pneumatic training boards. Uses drawings to construct control circuits, analyze the process, make revisions to wiring or set-up configurations, as necessary, and evaluate the proper operation of the control circuit. Credit may be earned in SKET 130 or ET 130 but not both. (22.5-22.5)

SKET 132 Power Distribution 3 Sem Hrs

Prerequisite: SKET 120 with a minimum grade of "C". The principles of electromagnetic induction are discussed and applied to the operation of DC generators, single phase AC generation, three phase alternators, and alternative power sources. Wye and delta connections will be explained and students will solve equations to determine voltage, current, and power in branch circuits. Students will distinguish various properties of conductors including type, physical size, ampacity, resistance, reactance, insulation, and temperature rating. Load requirements for branch circuits will be analyzed and appropriate wire type and size will be selected for the application. Other topics discussed include power factor correction, conductor derating, conductor identification, wire color codes, termination requirements, and conduit fill requirements. (45-0)

SKET 134 Transformers 2 Sem Hrs

Prerequisite: SKET 120 with a minimum grade of "C". Principles of transformers are discussed and applied to single phase transformers, three phase transformers, wye and delta connections, and isolation transformers. This course develops competency in the understanding and application of the National Electrical Code (NEC) as it applies to transformer installations. Calculations for turns ratio, voltage ratio, and current ratio are used to determine circuit relationships between voltage and current. (30-0)

SKET 136 Grounding 2 Sem Hrs

Prerequisite: SKET 100 with a minimum grade of "C". Develops competency in the comprehension and application of the National Electrical Code (NEC) as it applies to the effective grounding and bonding of electrical devices, equipment, and systems. Examines how to properly read and interpret the NEC tables and how to properly calculate the size of the conductors for the application. Credits may be earned in ET 136 or SKET 136, but not both. (30-0)

SKET 138 Over-Current Protection 2 Sem Hrs

Prerequisite: SKET 120 with a minimum grade of "C". This course covers the requirements for adequate protection of wiring and equipment. Disconnects and circuit breakers are explained and calculations are made to determine sizing requirements. Fuse types and characteristics are discussed and calculations are made to determine appropriate fuse sizing to protect wiring. Short circuit interrupt rating is introduced and appropriate fuse types are selected for various applications. (30-0)

SKET 139 Motors 2 Sem Hrs

Prerequisite: SKET 134 with a minimum grade of "C". The principles of electromagnetism are discussed and applied to the theory and the operation of DC motors, AC motors, permanent magnet, and brushless DC motors. Motor components, starting requirements, characteristics, maintenance, and troubleshooting techniques are discussed in lecture and applied in laboratory exercises. Credit may be earned in SKEL 131 or SKET 139 but not both. (15-15)

SKET 140 Motor Controls and Drives 4 Sem Hrs

Prerequisite: SKET 130 with a minimum grade of "C". Applies the basic principles of control circuits to an intermediate study of DC motors, AC motors, and servo motors. Performs armature reaction, CEMF, and basic motor calculations. Analyzes motor control including starting requirements, forward/reverse control, and sequencing of motors. Emphasizes the extension of motor control to drive systems including SCR armature control, field weakening, Pulse Width Modulation, and Variable Frequency Drives. Explains principles of drive operation, set-up, calibration, and troubleshooting in lecture and applies in laboratory exercises. Credit may be earned in SKET 140 or ET 140 but not both. (30-30)

SKET 141 Industrial Electrical Codes & Standards 3 Sem Hrs

Prerequisites: SKET 136, SKET 138, and SKET 139, all with a minimum grade of "C". Develops competency in the application of the National Electrical Code (NEC) and its relationship to industry and some residential wiring as written by the National Fire Protection Association (NFPA). Reviews the Joint Industrial Council (JIC) standards for industrial electrical mass production operations and equipment. Gives emphasis to the proper interpretation of safety issues regarding hazardous locations, electrical grounding, ground faults, fusing, motor circuit protection and controls, as well as electro-mechanical and hydraulic devices. Credit may be earned in SKET 141 or SKEL 141, but not both. (45-0)

SKET 160 Fire Alarm and Security Systems 2 Sem Hrs

Prerequisite: SKET 120 with a minimum grade of "C". Develops competency in the application of the National Electrical Code (NEC) and its relationship to fire alarm systems as written by the National Fire Protection Association (NFPA). Emphasizes the discussion of fire alarm and security systems. Discusses data transfer including the use of fiber optics and wireless communications. (15-15)

SKET 162 Industrial Robotics I 3 Sem Hrs

Prerequisites: SKET 107 and SKMT 101. Studies modern industrial robotic systems. Introduces the operation, use and safety of industrial robots. Discusses feedback mechanisms, actuators, sensors, power supplies, micro-controllers, P.C. computer control and programming. Emphasizes a hands-on approach to system analysis, critical thinking, solution to open-ended problems, computer usage, and teamwork. Credit may be earned in SKET 162 or ET 162 but not both. (15-30)

SKET 164 Robotics Electrical Service & Troubleshooting 3 Sem Hrs

Prerequisites: SKET 107 and SKMT 101. Identifies the electrical component of robots, theory of operation. Introduces proper troubleshooting procedures for the robot controller and manipulator. Approximately 50 percent of the course will be hands-on troubleshooting of actual robot system and controller. Credit may be earned in SKET 164 or ET 164 but not both. (15-30)

SKET 178 Residential Wiring and Controls 5 Sem Hrs

Prerequisite: SKET 130 with a minimum grade of "C". Builds on the skills developed in control circuits and applies the concepts learned to residential wiring and control systems. Analyzes the wiring schematics and examine troubleshooting techniques for various devices utilized in the residential industry. Also examines programmable logic controllers, alternative energy, and environmentally friendly devices. (45-30)

SKET 200 HMI Programming 4 Sem Hrs

Prerequisite: SKET 252 with a minimum grade of "C". Builds on the skills developed in SKET 252 and applies the concepts learned to the programming of Human Machine Interface (HMI) systems. Includes topics of the programming, editing, uploading, and downloading of HMI applications. Creates HMI programs that will read data from a PLC and send information to a PLC. Designs the PLC programs to interpret the data from the HMI and send information to the HMI. Applies lecture subject material in the laboratory through the use of PLC/HMI training systems. Designs programs, analyzes the process, makes revisions to programs as necessary, and evaluates the proper operation of the PLC/HMI system. (30-30)

SKET 210 Introduction to Electronics 4 Sem Hrs

Prerequisite: SKET 120. Identifies basic electronic devices commonly used throughout industry and relates each device to the proper symbol that is used in the electrical drawings. Describes the proper operation of an electronic circuit that is comprised of various components that are integrated together. Applies lecture material in the laboratory through the use of electronic circuit training boards. Constructs electronic circuits from drawings, analyzes the process, makes revisions to wiring as necessary, and evaluates the proper operation of the circuit. Discusses and uses troubleshooting techniques and basic test instruments. Credit may be earned in SKET 210 or ET 210 but not both. (30-30)

SKET 250 Programmable Logic Controllers II - Siemens 4 Sem Hrs

Prerequisite: SKET 122. Builds on the skills developed in an introduction to PLCs and applies the concepts learned to a Siemens Programmable Logic Controller (PLC) system. Explains the hardware platform for the Siemens PLC along with the logic elements that comprise the instruction set used for programming the logic. Applies material taught in lecture in the laboratory through the use of PLC training systems. Constructs control circuits from drawings, analyzes the process, makes revisions as necessary, and evaluates the proper operation of the PLC circuit. Credit may be earned in ET 250 or SKET 250 but not both. (30-30)

SKET 252 Programmable Logic Controllers II - AB ControlLogix 4 Sem Hrs

Prerequisite: SKET 122 with a minimum grade of "C". Builds on the skills developed in an introduction to PLCs and applies the concepts learned to an AB ControlLogix Programmable Logic Controller (PLC) system. Explains the hardware platform for the AB ControlLogix PLC along with the logic elements that comprise the instruction set used for programming the logic. Applies lecture subject material in the laboratory through the use of PLC training systems. Constructs control circuits from drawings, analyzes the process, makes revisions as necessary, and evaluates the proper operation of the PLC circuit. Credit may be earned in ET 252 or SKET 252 but not both. (30-30)

SKET 262 Industrial Robotics II 3 Sem Hrs

Prerequisite: SKET 162. Emphasizes programming, advanced manipulation, grip load instructions, velocity, and acceleration instruction, offline editing, handling errors, and robot configuration. Discusses programming concepts and structures in the C++ programming language, industry-like applications and system integration projects. Emphasizes a hands-on approach to system analysis, critical thinking, solutions to open-ended problems, computer usage, and teamwork. Credit may be earned in SKET 262 or ET 262 but not both. (15-30)

SKET 280 Industrial Computer Networks 3 Sem Hrs

Prerequisite: SKET 122 with a grade of "C" or better. Builds on the skills developed in an introduction to PLC's and applies the concepts learned to the integration of various devices to form an industrial computer network system. Emphasis is placed on the Ethernet communication protocol. Construct a computer network, establish communications between all connected devices, and evaluate the proper operation of a control system. Develops skills of selecting, connecting, and operating sensors and transducers in an industrial environment in order to perform maintenance actions. Credit may be earned in SKET 280 or ET 280 but not both. (15-30)

SKET 289 Troubleshooting 3 Sem Hrs
 Prerequisites: SKET 122, SKET 140, and SKET 160, all with a minimum grade of "C". Completes a comprehensive review of skills for the Industrial Electrician certificate program. Applies all of the skills covered throughout the program to evaluate problems with electrical equipment. Explains systematic troubleshooting techniques and applies them to identifying and resolving real-life situations. Selects appropriate diagnostic testing equipment and compares expected results to actual findings. (15-30)

Skilled Trades

SKMA 096 Pre-Algebra 2 Sem Hrs
 Prerequisite: MATH LEVEL 2. Provides preparation for algebra. Includes fractions, decimals, integers, ratios, and percentages with an introduction to equations, graphs, and functions. May receive credit in only one of the following: MTH 096 or SKMA 096 or SKMA 101 or MTH 106. Does not earn credit toward graduation. (30-0)

SKMA 097 Algebra I 3 Sem Hrs
 Prerequisite: MATH LEVEL 3. Includes natural number, integers, first-degree equations and inequalities, special products, factoring, rational expressions and equations, graphs, and linear systems, exponents, and quadratic equations. May receive credit in only one of the following: MTH 107 or MTH 097 or SKMA 097 or SKMA 102. Does not earn credit toward graduation. (45-0)

SKMA 099 Pre-Apprenticeship Basic Skills 2 Sem Hrs
 Explores basic mathematics principles. Discusses whole numbers, fractions, decimals, percentages, metric system, rational numbers, polynomials, equations, exponents, and radicals. Reviews algebra, geometry and graphical math. Introduces spatial skills and blue print reading. Examines orthographic projections, three view drawings, missing line(s), point and surface identification, fitting pieces together, rotated/flipped and cube unfolding and folding. Includes mechanical comprehension. Analyze physical principles, simple machines, vectors, hydraulics, liquids, density and circular motion. Completion of this course does not guarantee an apprenticeship. Does not earn credit toward graduation. (30)

SKMA 103 Applied Geometry and Trigonometry 4 Sem Hrs
 Prerequisite: Math Level 4. Includes the following geometry topics: angles, triangles, polygons, circles, prisms, cylinders, and cones. Includes right-triangle trigonometry, radian measure, oblique-triangle trigonometry, and graphs of trigonometric functions. May receive credit in only one of the following: SKMA 103, MTH 103, or MT 110. (60-0)

SKMA 111 Applied Integrated Electrical Math I 6 Sem Hrs
 Prerequisite: MATH LEVEL 3. Develops competency in the application of mathematics principles to electrical circuit configurations. Includes mathematical equations and formulas necessary to solve D.C. circuit applications applied to electrical, mechanical and process industrial control equipment. Covers non-mathematical theory related to electricity and electronics. (90-0)

SKMA 112 Applied Integrated Electrical Mathematics II 3 Sem Hrs
 Prerequisite: SKMA 111. Develops further competency in the application of mathematics principles to electrical circuit configurations including DC and AC circuit applications. Includes trigonometry as applied to electrical-circuit theory and non-mathematical theory related to electricity and electronics. (45-0)

SKMA 113 Applied Integrated Electrical Math III 3 Sem Hrs
 Prerequisite: SKMA 112. This course is the third in a series of electrical mathematics and circuit analysis intended to give an electrical apprentice the necessary background to maintain and service industrial control equipment. It will include a study of capacitance, capacitive reactance, vectors, phasors, series AC circuits, power factor and three-phase systems. Trigonometry and pythagorean mathematics will be used in the computation of the phase relationships of the various quantities studied. (45)

Skilled Trades

SKMT 111 Metals 3 Sem Hrs
 Prerequisite: SKMA 097 or MTH 097 with a grade of "C" or better. Distinguishes temperature measurement by color, hardness, strengths, fatigue properties, steels, plastics, cast iron, copper, brass bronze, aluminum, their applications with respect to wear, corrosion, and design. (45-0)

SKMT 112 Ferrous Heat Treatment 2 Sem Hrs
 Designed to acquaint students with various forms of heat treatment applied to plain carbon steels, cast iron, alloy tool steel, and stainless steel. Course will also include steel classification and machinability. (30)

SKMT 151 Power Transmission 3 Sem Hrs
 Prerequisite: MATH LEVEL 5. Identifies and explains safety rules, regulations, test procedures, installation, removal, and operation of belt drives, chain drives, mechanical couplings, and mechanical drive systems. Demonstrates the concepts of shaft alignment. Credit may be earned in SKMT 151 or MT 151 but not both. (30-15)

SKMT 161 Industrial Rigging and Safety 2 Sem Hrs
 Prerequisite: MATH LEVEL 3. Studies the methods of safe transfer of loads and provides comprehensive easy-to-understand and reliable information of the entire field of rigging operations. Discusses techniques and methods to accomplish the rigger's task with the greatest safety for all of the workers on a project, as well as for passers-by and the public in general. Identifies sources of, organizes, and describes safety rules, regulations and practices related to job-site hazards, personal protective equipment, aerial work, hazard communication, and electrical safety. Credit may be earned in MT 161 or SKMT 161 but not both. (15-15)

SKMT 171 Sheetmetal Layout I 3 Sem Hrs
 Analyzes and develops geometrical structures, intersections by radial and triangulation methods of sheet metal layout, the drawing of development layouts, and the forming of actual models with sheet metal. Credit may be earned in one of the following: HVAC 142, RHA 142, or SKMT 171. (35-10)

SKMT 172 Sheetmetal II 3 Sem Hrs
 Prerequisite: SKMT 171. Continuation of Sheetmetal I. Projects involve fabrication of complex pieces to actual specification using tools common to the trade. (45)

SKMT 173 Sheetmetal III 3 Sem Hrs
 Prerequisite: SKMT 172. Continuation of Sheetmetal Layout II. Emphasis placed on the layout and construction of patterns found in the industrial plant. Special projects will be assigned. (20-25)

SKMT 220 Hydraulics and Pneumatics I 3 Sem Hrs
 Prerequisite: MATH LEVEL 4. Focuses on the operation and function of fluids, pumps, compressors, valves, cylinders, motors, filters, and other components used in the power and control of machine tools, construction and agricultural equipment. Uses algebraic formulas, charts, and graphic symbols for design and diagnosis of basic circuits. Credit may be earned in only one of SKMT 101, SKMT 220 or MT 220 (30-30)

SKMT 222 Hydraulics and Pneumatics II 3 Sem Hrs
 Prerequisite: SKMT 220. Advanced course in fluid power designed for machine repair, pipefitters and plumber trades. Analyzes common hydraulic and pneumatic components and circuits. Includes building of machine tool circuits and troubleshooting special systems such as hydrostatic transmissions and electrohydraulic servos, and ladder diagramming of pneumatic control circuits. Covers mathematics and graphic symbols used in troubleshooting. Credit may be earned in SKMT 102 or SKMT 222, but not both. (45-0)

SKMT 231 Fundamentals of Foundry Technology 3 Sem Hrs
 Prerequisite: Foundry experience or permission of department. Provides an overview of all the components that make up a modern foundry. Participants will become familiar with the interrelationship between the metallurgy, melting, production engineering, core, molding, finishing, and reliability and quality control departments. Special emphasis is placed on how each department is dependent upon the other and what affect each has on the production of a quality product at a competitive cost, through the use of a statistical process control. (45)

SKMT 241W Introduction to Monitoring Controls 3 Sem Hrs
 Prerequisite: MATH LEVEL 4. Focuses on the theory of planned/predictive maintenance strategies and the familiarization of the technological tools available to support those strategies. Presents the theory and application of each of the technologies but is not intended to prepare for certification in any of the technologies discussed above. (45-0)

Skilled Trades

SKOT 191 Machine Controls I 3 Sem Hrs
 Present students with mechanical background the essentials of wiring and troubleshooting controls in production machinery. Studies AC/DC circuits, fundamentals of hydraulics and pneumatics as they pertain to machine control circuitry. Emphasizes relay ladder diagrams, simple debugging and nomenclature necessary to communicate with design engineers and other trades in the installation and troubleshooting of panel wiring. (45-0)

SKOT 192 Machine Controls II 3 Sem Hrs
 Prerequisite: SKOT 191. Machine Controls II is a continuation of Controls I with special emphasis placed on diagnostic troubleshooting techniques. Primary objective of the course is to enable maintenance personnel to discuss machine functions or malfunctions with machine and control system designers. The course will also benefit toolmakers and machine builders to understand the overall operation of complex machinery they build and/or assemble. (45-0)

Skilled Trades

SKPH 101 Applied Physics 4 Sem Hrs
 Prerequisite: Math Level 5. Introduces the basic physical principles involving mechanics, fluids, heat, conservation of energy, electricity, and sound. (60-30)

Skilled Trades

SKPT 101 Industrial Piping 4 Sem Hrs
 Basic sanitation principles, terminology, materials classification, drainage systems, waste disposal system, pipe sizing and layout. Industrial piping situations involving gasoline, acid plating solutions, gases, safety, code requirements. (60)

SKPT 106 Pipefitters Handbook 3 Sem Hrs
 Prerequisite: SKMA 097 or MTH 097 with a grade of "C" or better. Explores mathematical calculations including geometry and trigonometry. Includes: pipe bends, linear expansion of piping, tank capacities, leverage, methods of layout angles, pipe-fitting calculations, pipe-welding layout, and reference tables. (45-0)

SKPT 111 Stationary Boiler Engineering I 2 Sem Hrs
 Orientation to power plant operations including boiler safety rules and regulations. General operating procedures for various types of boilers, uses and types of fuels and their sources; elementary chemistry of combustion. Credit may be earned in either SKPT 111 or CVI 1037 but not both. (30)

SKPT 112 Stationary Boiler Engineering II 2 Sem Hrs
 Prerequisite: SKPT 111. This course includes boiler settings, combustion equipment, operation and maintenance of boilers, pumps, reciprocating steam engines, valve operating mechanisms. Credit may be earned in SKPT 112 or CVI 1038 but not in both. (30)

SKPT 113 Stationary Boiler Engineering III 2 Sem Hrs
 Prerequisite: SKPT 112. Automatic boiler operation. Forced and induced draft systems. Steam turbines and auxiliaries, auxiliary steamplant equipment, cooling towers, boiler feed water treatment and heating. Credit may be earned in SKPT 113 or CVI 1039 but not in both. (30)

SKPT 114 Stationary Boiler Engineering IV 3 Sem Hrs
 Prerequisite: SKPT 113 or permission of department. This course includes air compressors of the following types: centrifugal, rotary screw, large reciprocating compressors and drives; boiler feed water chemical treatment. Credit may be earned in either SKPT 114 or CVI 1040 but not both. (45-0)

SKPT 121 Fundamentals of Refrigeration & A/C 3 Sem Hrs
 Examines the physical, gas, and chemical laws of refrigeration. Develops an understanding of the theory of heat, temperatures, pressures of gases and thermodynamics. Analyzes basic refrigeration cycle and components such as vacuum pumps, gauges, and (PT) Pressure Temperature Charts. Develops an understanding of units on safety and EPA Refrigerant Certification. Credit may be earned in one of the following: HVAC 121, RHA 121, or SKPT 121. (35-10)

SKPT 122 Refrigeration and A/C Service I 3 Sem Hrs
 Prerequisites: SKPT 121. Focuses on concepts of common types of domestic refrigerators, dehumidifiers, and portable air conditioners. Develops an understanding of special references involving the essentials of construction of complete refrigeration systems. Presents theory and principles underlying repairing refrigeration appliances and practical shop work through classroom demonstrations and lab experiments. Credit may be earned in one of the following: HVAC 122, RHA 122, or SKPT 122. (35-10)

SKPT 123 Commercial Refrigeration Flow Controls I 3 Sem Hrs
 Prerequisite: SKPT 122. Develops an understanding of basic skills necessary for servicing of commercial units such as walk-in coolers, reach-ins, display cases, and commercial icemakers. Analyzes refrigeration flow-control components, system components, and piping practices. Credit may be earned in one of the following: HVAC 123, RHA 123, or SKPT 123. (35-10)

SKPT 124 Refrigeration and A/C Service II 3 Sem Hrs
 Prerequisite: SKPT 122. Develops understanding and operational skills in trouble shooting domestic refrigeration and air conditioning systems. Focuses on electrical components and system parts in frost-free, conventional and cyclematic units, and portable air conditioning units. Credit may be earned in one of the following: HVAC 124, RHA 124, or SKPT 124. (35-10)

SKPT 126 Heating System Fundamentals 3 Sem Hrs
 Focuses on the principles of heating systems, types of fuels, electric heating, venting for combustion furnaces, and the methods of correct duct design through lecture and demonstration. Develops skills and basic knowledge of furnace components, testing, and operations. Reviews indoor air quality enhancements and basic mechanical codes for heating and gas piping installations. Credit may be earned in one of the following: HVAC 135, RHA 135, or SKPT 126. (35-10)

SKPT 225 Commercial Refrigeration II 3 Sem Hrs
Prerequisite: SKPT 123. Develops additional skills and understanding in the servicing of commercial units such as walk-in coolers, reach-ins, display cases, and commercial icemakers. Focuses on electrical systems and diagrams. Analyzes single-phase systems and three-phase systems. Credit may be earned in one of the following: HVAC 225, RHA 225, or SKPT 225. (35-10)

Skilled Trades

SKQA 140 Measurement Systems 3 Sem Hrs
Introduces skill development in measurement analysis and measurement systems management. Emphasizes industrial measurement issues involving mechanical gauging and inspection instruments. Determines gauge and dimensional relationships along with describing the various types of industrial gauges and their usage. Explores gauge management issues and ISO 9000 requirements. Credit may be earned in either QA 140 or SKQA 140 but not in both. (45-0)

Skilled Trades

SKTR 113 Introduction to Machining Processes 2 Sem Hrs
Introduces the manufacturing facility. Utilizes safety, materials, hand tools, precision instruments, drill presses, lathes, mills, grinders, and saws. Credit may be earned in MS 113 or SKTR 113 but not both. (30-30)

SKTR 181W Machine Tools I 4 Sem Hrs
Prerequisite: MS 113 or instructor permission. Introduces the manufacturing facility. Utilizes safety, materials, hand tools, precision instruments, drill presses, lathes, mills, pedestal grinders, and saws. Studies fundamentals and procedures to provide an understanding of manufacturing processes. Demonstrates greater knowledge of machine tool practices and applies that knowledge to educate others. Credit may be earned in MS 181 or SKTR 181 but not both. (45-45)

SKTR 182 Machine Tools II 4 Sem Hrs
Prerequisite: MS 181 or SKTR 181. Trains in the set up and operation of various metal working machines and construction of projects from engineering drawings. Trains in use of a variety of measuring instruments to take measurements of one thousandth of an inch or closer. Utilizes safety, lathes, drill presses, saws, grinders, speeds and feeds to complete duty and task list. Credit may be earned in only one of: MS 130, SKTR 182, or MS 182. (45-45)

SKTR 183 Machinery's Handbook 3 Sem Hrs
Prerequisite: Prerequisite: SKTR 182 and SKMA 103, or MS 113 or MS 114 and MT 110 or MTH 103. Focuses on learning how to use and understand the Machinery's Handbook. Credit may be earned in either SKTR 183 or MS 120 but not both. (45-0)

Skilled Trades

SKWL 103 Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting 3 Sem Hrs
Addresses safety in use of equipment for oxy-fuel gas welding and cutting, and equipment set-up. Includes oxy-fuel welding of flat strips 1/8" or less in thickness, and cutting, beveling, and piercing plate and pipe in laboratory experience. Credit may be earned in one of the following courses WELD 103, SKWL 101, SKWL 103 but in more than one. (30-15)

SKWL 104 Introduction to Shielded Metal Arc Welding 3 Sem Hrs
Addresses safety in arc welding, welding terms and definitions, electrode selection, and welding joints. Includes striking an arc, running beads, pad welding, and fillet welds in lab. Credit may be earned in either WELD 104 or SKWL 104 but not in both. (30-15)

Sociology

SOC 158 Projects in Community Service 2 Sem Hrs
Student volunteers will be assigned in groups to assist agency staff in programs in the tri-city area working with populations of need. Students will be assigned on the basis of preferred interests. Supportive seminar will provide structure and supervision for an experience in the field of human services. Students may elect to take SOC 157, 158, and 159, however, only a total of three (3) credit hours can be earned in these courses. (15-60)

SOC 159 Projects in Community Services 3 Sem Hrs
Student volunteers will be assigned in groups to assist agency staff in programs in the tri-city area working with populations of need. Students will be assigned on the basis of preferred interests. Supportive seminar will provide structure and supervision for an experience in the field of human services. Students may elect to take SOC 157, 158, and 159, however, only a total of three (3) credit hours can be earned in these courses. (15-90)

SOC 161 Projects in Cross-Cultural Learning 1 Sem Hr
Assigns student volunteers to either community agencies providing cross-cultural experiences or to an international work experience. Provides support seminars dealing with structure and background knowledge of the particular country involved. (A minimum of 30 hours volunteer placement is required). Credit may be earned in IHU 161 or SOC 161, but not both. (15-30)

SOC 162 Projects in Cross-Cultural Learning 2 Sem Hrs
Assigns student volunteers to either community agencies providing cross-cultural experiences or to an international work experience. Provides support seminars dealing with structure and background knowledge of the particular country involved. (A minimum of 60 hours volunteer placement is required.) Credit may be earned in IHU 162 or SOC 162, but not both. (15-60)

SOC 211HW Principles of Sociology - Honors 3 Sem Hrs
Prerequisites: READING LEVEL 4 AND WRITING LEVEL 4 and instruction of the Honors Office, Introduces the scientific study of society and social behavior including the basic concepts, theories, and methods of sociology. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in SOC 211 or SOC 211H but not both. (45-0)

SOC 211W Principles of Sociology 3 Sem Hrs
Prerequisites: READING LEVEL 3 AND WRITING LEVEL 3 or permission of instructor. Introduces the scientific study of society and social behavior including the basic concepts, theories, and methods of sociology. Credit may be earned in SOC 211 or SOC 211H but not both. (45-0)

SOC 212W Social Problems 3 Sem Hrs
Prerequisite: SOC 211. READING LEVEL 3 AND WRITING LEVEL 3, or permission of instructor. Analyzes contemporary social problems within the theoretical framework of social change, value conflicts, and social deviation and examines resulting implications for social policy. (45-0)

SOC 215W Sociology of Minority Groups 3 Sem Hrs
Prerequisite: SOC 211 with a "C" or better. READING LEVEL 3 AND WRITING LEVEL 3, or permission of instructor. Studies prejudice and discrimination against minority groups, primarily in the United States, using the sociological approach. Emphasizes the analysis of both causes and solutions to the problems of prejudice and discrimination. (45-0)

SOC 221W Marriage and Family 3 Sem Hrs
Prerequisites: SOC 211 or SOC 231 with a "C" or better. READING LEVEL 3 AND WRITING LEVEL 3 or permission of instructor. Studies the family as an institution in society. Encompasses aspects of historical and cross societal evidence of this institution as well as contemporary American pairing and child rearing practices with a broad research approach. (45-0)

SOC 230HW Physical Anthropology and Archeology - Honors 4 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 4 or permission of Honors Office. Introduces the origin and evolution of humankind's physical and cultural development. Emphasizes the evidence and theories of human evolution and a survey of Old World and New World archeology. Provides opportunities to engage in Independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of SOC 230, SOC 230H, BIO 230, or BIO 230H. (60-0)

SOC 230W Physical Anthropology and Archeology 4 Sem Hrs

Prerequisites: READING LEVEL 3 AND WRITING LEVEL 3, or permission of instructor. Introduces the origin and evolution of humankind's physical and cultural development. Emphasizes the evidence and theories of human evolution and a survey of Old World and New World archeology. Credit may be earned in only one of SOC 230, SOC 230H, BIO 230, or BIO 230H. (60-0)

SOC 231HW Cultural Anthropology - Honors 3 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 4 or permission of the Honors Office. Introduces humanity in its cultural setting. Emphasizes the study of diversity of non-industrialized cultures and the implications of that study for understanding our own culture. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in SOC 231, or SOC 231H, but not both. (45-0)

SOC 231W Cultural Anthropology 3 Sem Hrs

Prerequisites: READING LEVEL 3 AND WRITING LEVEL 3, or permission of instructor. Introduces humanity in its cultural setting. Emphasizes the study of diversity of non-industrialized cultures and the implications of that study for understanding our own culture. Credit may be earned in SOC 231 or SOC 231H but not both. (45-0)

SOC 233W Archaeology Field Methods 2 Sem Hrs

Provides a guided field experience in the basic techniques of land site analysis. Introduces commonly used methods of surveying and mapping; excavation; dating; artifact and ecofact identification and conservation; data recording, including photography and scaled drawing; and site interpretation. Examines criteria for selecting techniques appropriate to specific site conditions. Emphasizes the Michigan prehistoric and historic context. (30-0)

SOC 242W Nanotechnology: Content and Context 3 Sem Hrs

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Explores nanotechnology and its impact on society. Discusses the current status of nanotechnology and projected technologies and applications. Focuses on the societal implications of emerging technologies and their impact on social institutions. Includes how technological change in the past has altered societies, and considers how possible future changes predicted with the accomplishment of nanofabrication and other nanotechnologies may impact societies. (45-0)

SOC 250W Introduction to Social Work 3 Sem Hrs

Prerequisites: READING LEVEL 3 AND WRITING LEVEL 3 or permission of instructor. Introduces social work as a helping profession within the field of human services. Explores social work values, practice strategies, and helping skills in the context of the social welfare institution. Requires 45 hours of internship, which meets the experience requirement necessary for admittance to the social work program at transfer institutions. (45-45)

SOC 265W Third World Development 4 Sem Hrs

Using a multidisciplinary approach, describes and analyzes processes and conditions which created and maintain the "third world." Addresses population, physical environment, historical, political, social and economic factors. Explores and applies current concepts and development theories. Credit may be earned in SOC 265 or GEO 255, but not in both. (60-0)

SOC 268 International Studies in Sociology 1-4 Sem Hrs

The student will select a major institution of society for the purpose of comparative study. An analysis and comparison of that institution in preselected societies will be the major focus of the course. Includes classroom lectures, individual consultation and international field study. Expenses for field study must be borne by the student. By prior arrangement with appropriate faculty, students may also take International studies in the following disciplines: GEO 268, ECN 268, MGT 268 (or former GB268). (60-0)

SOC 279W Introduction to Social/Behavioral Science Research 3 Sem Hrs

Prerequisite: One of the following courses ECN 221, POL 103, POL 111, PSY 211, SOC 211, or permission of instructor. Introduces social and behavioral research utilizing a multidisciplinary approach. Shows how to formulate research questions, search the literature, select a research design, collect and analyze data, and draw useful conclusions. Credit may be earned in SOC 279 or SOC 280, but not in both. (45-0)

SOC 280HW Introduction to Social/Behavioral Science Research/Project - Honors 4 Sem Hrs

Prerequisites: READING LEVEL 4 and WRITING LEVEL 4 or permission of the Honors Office and concurrent enrollment in SOC 281 and one of the following courses: ECN 221, POL 103, POL 111, PSY 211, SOC 211, or permission of the instructor. Introduces social and behavioral research utilizing a multidisciplinary approach. Shows how to formulate research questions, search the literature, select a research design, collect and analyze data, and draw useful conclusions. Requires a research paper. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Credit may be earned in only one of SOC 280, SOC 280H, or SOC 279. (60-0)

SOC 280W Introduction to Social/Behavioral Science Research/Project 4 Sem Hrs

Prerequisite: Concurrent enrollment in SOC 281 and one of the following courses: ECN 221, POL 103, POL 111, PSY 211, SOC 211, or permission of instructor. Introduces social and behavioral research utilizing a multidisciplinary approach. Shows how to formulate research questions, search the literature, select a research design, collect and analyze data, and draw useful conclusions. Requires a research paper. Credit may be earned in only one of SOC 280, SOC 280H, or SOC 279. (60-0)

SOC 281W An Introduction to SPSS 1 Sem Hr

Prerequisite: Concurrent enrollment in SOC 280, or permission of instructor. Introduces the Statistical Package for the Social Sciences (SPSS), a comprehensive set of statistical tools for many types of data analysis. Emphasizes the basic procedures, commands, and tools of SPSS. Credit may be earned in SOC 281 or CPS 108 but not in both. (15-0)

SOC 282HW Seminar in Social Issues - Honors 3 Sem Hrs

Prerequisite: READING LEVEL 4 AND WRITING LEVEL 4 or permission of the Honors Office. An integrated study involving exploration and development of critical thinking, analysis and problem-solving skills with an interdisciplinary approach focusing on a selected social issue. Provides opportunities to engage in independent intellectual inquiry to foster deeper learning. Same as IHU 282HW and may be taken for SOC or IHU credit but not both. (45-0)

SOC 290-299 Special Projects in Sociology Sem Hr

SOC 300W Interviewing, Counseling, and the Helping Relationship 3 Sem Hrs

Prerequisite: ENG 111 with a "C" or better or permission of instructor. Establishes beginning social work interviewing and relationship skills as well as awareness of the use of self in the helping relationship. Presents specific interviewing strategies for generalist social work practice. Includes student participation in practice sessions using role plays, videotapes and self awareness exercises. Provides opportunities to practice formal and informal writing. Credit may be earned in PSY 300 or SOC 300 but not in both. (45-0)

Spanish

SPA 109 Spanish for Health Care Professionals I

2 Sem Hrs

Prerequisite: READING LEVEL 3 and WRITING LEVEL 3 and SPA 112 with a minimum grade of C; or a minimum of two years of High School Spanish; or a minimum of two semesters of college-level Spanish; or permission of instructor. Introduces basic conversational Spanish for health care personnel. Practices basic conversational skills and vocabulary appropriate to various job-related situations. Practices correct pronunciation patterns by means of oral-aural practice, small group interaction, and role-playing situations. Introduces certain aspects of Hispanic culture. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. (30-0)

SPA 110 Spanish for Health Care Professionals II

2 Sem Hrs

READING LEVEL 3 and WRITING LEVEL 3 and SPA 109 with a minimum grade of C; or permission of instructor. Introduces basic conversational Spanish for health care personnel. Practices basic conversational skills and vocabulary appropriate to various job-related situations. Practices correct pronunciation patterns by means of oral-aural practice, small group interaction, and role-playing situations. Continues introduction to certain aspects of Hispanic culture. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. (30-0)

SPA 111 Spanish One

4 Sem Hrs

Prerequisite: READING LEVEL 3 and WRITING LEVEL 3; or instructor permission. Introduces basic grammatical structures and vocabulary of modern spoken and written Spanish and correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Introduces certain aspects of Hispanic culture and the differences between the Spanish and the English languages. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. Intended for students with no previous formal study in Spanish. A diagnostic test will be given to determine proper SPA course placement. (60-0)

SPA 112 Spanish Two

4 Sem Hrs

Prerequisite: READING LEVEL 3 and WRITING LEVEL 3 and SPA 111 or no more than one semester of college-level Spanish; or no more than one year of High School Spanish; any with a minimum grade of C; or permission of instructor. Continues introduction of basic grammatical structures and vocabulary of modern spoken and written Spanish and to correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Continues introduction of certain aspects of Hispanic culture and differences between the Spanish and the English languages. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. A diagnostic test will be given to determine proper SPA course placement. (60-0)

SPA 113W Introduction to Hispanic Cultures

2 Sem Hrs

Prerequisite: READING LEVEL 3 and WRITING LEVEL 3. Examines aspects of Hispanic cultures (Europe, the Americas, Africa, and the United States), Studies history, contributions in the areas of art, literature, and music, and the Hispanic presence in the United States. Course is conducted in English. Credit may be earned in SPA 101 or SPA 113W, but not both. (30-0)

SPA 211 Spanish Three

4 Sem Hrs

Prerequisite: READING LEVEL 3 and WRITING LEVEL 3, and SPA 112 or no more than 2 semesters of college-level Spanish; or no more than two years of High School Spanish; any with a minimum grade of C; or permission of instructor. Introduces the basic grammatical structures and vocabulary of modern spoken and written Spanish and correct pronunciation patterns by means of oral-aural practice, small group interaction, reading of simple texts, and written exercises. Continues introducing certain aspects of Hispanic culture and differences between the Spanish and the English languages. Conducts class in Spanish as much as possible. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. (60-0)

SPA 212 Spanish Four

4 Sem Hrs

Prerequisite: READING LEVEL 3 and WRITING LEVEL 3, and SPA 211 or no more than three semesters of college-level Spanish; or no more than three years of High School Spanish; any with a minimum grade of C; or permission of instructor. Instructs at the Intermediate level. Increases and expands vocabulary and written and verbal accuracy and fluency through a review of grammar covered in previous courses. Increases ability to understand written and spoken Spanish. Provides the opportunity to deepen cultural awareness and sensitivity, as well as expand awareness of the cultural richness and diversity that characterizes the Hispanic world. Conducts course in Spanish. Requires supplemental (outside of class) listening, reading, speaking, and written work using ancillary materials and the textbook's Internet site. (60-0)

SPA 214 Intermediate Spanish Conversation

2 Sem Hrs

Prerequisite: READING LEVEL 3 and SPA 212; or four semesters of college-level Spanish; or four years of High School Spanish, any with a minimum grade of C; or permission of instructor. Offers the opportunity to read and discuss short authentic literary and non-literary texts in Spanish and to watch and discuss selected video samples in Spanish. Discusses selected topics such as differences in cultures, educational systems, families, political systems, etc. Conducts course in Spanish. (30-0)

SPA 268W Studies in Spanish - International Travel

1-4 Sem Hrs

Studies ancient, colonial and / or modern civilization(s) in a Spanish-speaking country or countries. Visits archeological and / or historical sites with unassigned time for individual interests. Student must meet all course and travel requirements in addition to paying tuition and travel expenses. (15-60)

SPA 275 Introduction of Hispanic Fiction

3 Sem Hrs

READING LEVEL 4; and SPA 212, or four semesters of college-level Spanish, or four years of High School Spanish, any with a grade of C or better, or permission of instructor. Introduces representative literature from the Hispanic world (Europe, the Americas, Africa, and the United States). Reads, discusses, and writes about selected novels, plays, short stories, and poetry. Expands knowledge of Hispanic culture. Conducts course in Spanish. (45-0)

SPA 290-299 Special Projects in Spanish

Sem Hr

Social Science Interdisciplinary

SSI 110W Introduction to Genealogy

1 Sem Hr

Introduces and broadly examines genealogy from an interdisciplinary perspective. Examines family and ethnic history and pursues family history for personal and professional growth. Covers research methods, record keeping, and problem solving. Emphasizes the use of archival and printed sources, and the Internet. Credit may be earned in SSI 110 or IHU 110 but not in both. (15-0)

SSI 120W Introduction to Global Peace Studies 4 Sem Hrs

Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Provides an interdisciplinary foundation for global peace studies. Focuses on identifying the various factors that interact to generate peace and/or conflict at the personal, local, national, and international levels. Includes analysis of how the interaction of economic and political influences, as well as the availability of environmental resources and cultural norms and values can result in peace or conflict. (Successful completion of this course satisfies the civic engagement requirement in the AA and AS degrees). Credit may be earned in IHU 120W or SSI 120W but not both. (45-15)

SSI 229W Women, Minorities, and the Media 3 Sem Hrs

Prerequisites: Any College Composition I course or higher with a grade of "C" or higher. Examines the depiction of women and minorities in the mass media in contexts including television, film, print, and the Web. Studies media portrayal, employment, ownership, and access. Explores the individual and societal consequences of media representation. Credit may be earned in SSI 229W or EMB 229W but not both. (45-0)

SSI 232W Exploring Human Nature 3 Sem Hrs

Prerequisite: A "C" grade or better in a college level composition I course and WRITING LEVEL 4. Explores the question "What does it mean to be human?" from interdisciplinary perspectives. Identifies and discusses the relative importance of traits and characteristics that "make us human." Examines and evaluates major traditional and contemporary views of human nature and introduces alternative ways of understanding the self in relation to nature, society, religion, and the state. Credit may be earned in only one of IHU 232, SSI 232, or PSY 232. (45-0)

SSI 234W World Religions 4 Sem Hrs

Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Introduces religion and the primary "living" religions of the world. Examines the principles and functions of religion, the origins and cultures of the world's major religions, and their beliefs and primary ritual practices. Discusses and critically examines how religious belief systems and practices influence the thoughts and behaviors of adherents in everyday life. Credit may be earned in SSI 234 or IHU 234 but not in both. (60-0)

SSI 240W Leadership for Positive Change 4 Sem Hrs

Prerequisites: READING LEVEL 3 and WRITING LEVEL 3. Prepares students to lead positive change in a variety of contexts (personal, family, community/social and organizational). Includes: leadership development, problem solving, service learning, team work, global citizenship, sustainability, and social action. Provides opportunities for individual practice and reflection and requires "change" project in service to family, community, or place of employment. Credit may be earned in IHU 240W or SSI 240W but not both. (45-0)

SSI 268W International Studies in Social Science 1-4 Sem Hrs

Provides interdisciplinary examination through the Social Sciences of the human experience in another social and cultural context. Requires travel and foreign study with travel expenses borne by the student. (0-60, 0)

SSI 269W Interdisciplinary Study with Domestic Travel 1-4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Provides an interdisciplinary study-travel experience focused on examining the factors, issues and forces that impact the course topic within the United States. Historical and contemporary perspectives will also be used to examine various cultural contexts and lifestyles. Involves readings, writing, discussion and travel. Requires domestic travel with expenses borne by the student. Credit may be earned in SSI 269 or IHU 269, but not both. (15/60-0)

SSI 274 Conflict Transformation 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Introduces conflict management, resolution, and transformation. Identifies and practices approaches, methods and techniques to manage, resolve and transform conflicts. Utilizes simulations and role plays to practice and refine not only knowledge of conflict management techniques but skill in applying them. Can be taken as either IHU 274 or SSI 274, but not both. (45-0)

SSI 288W Exploring Diversity 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Explores themes, issues, perspectives and experiences related to diversity. Provides an opportunity to reflect and practice an interdisciplinary approach to the study of diversity in a global world. Credit may be earned in only one of the following: IHU 280W, IHU 281W, IHU 281HW, EDU 388W, EDU 389W, SSI 288W, SSI 289W, SSI 289HW. (45-0)

SSI 289W Exploring Diversity/With Project 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2. Explores themes, issues, perspectives and experiences related to diversity. Provides an opportunity to reflect and practice an interdisciplinary approach to the study of diversity in a global world. Credit may be earned in only one of the following: IHU 280W, IHU 281W, IHU 281HW, EDU 388W, EDU 389W, SSI 288W, SSI 289W, SSI 289HW. (60-0)

SSI 290-299 Special Projects in Social Science Interdisciplinary

SSI 293 Public Achievement 1 Sem Hr

Prerequisites: READING LEVEL 2 AND WRITING LEVEL 2. Introduces and applies a process for making positive-change in communities. Emphasizes the power of citizenship in democracy and that ordinary people can challenge the status quo through collaboration and working toward a common goal. Provides opportunity for "coaching" a team of middle- or high-school students in designing and implementing projects to solve civic problems while learning lifelong skills to engage in politics and public life. (15-0)

SSI 294W Special Projects: The Great Lakes Indians and European Experience 3 Sem Hrs

Prerequisites: READING LEVEL 2 or WRITING LEVEL 2. Examines American Indian history and culture in the Great Lakes from pre-contact to 1934. Considers and explores the approaches of studying Native Americans from a historical and sociological perspective; including the political, cultural, and social consequences of contact with Europeans. Provides a thorough historical and cultural background of the Great Lakes Indians, specifically the "People of the Three Fires," known as the "Anishnaabeg" and "People of the Calumet" of the Great Lakes. Credit may be earned in SSI 294 or IHU 294 but not both. (45-0)

SSI 295W Special Projects in Interdisciplinary Social Science - The Sixties 3 Sem Hrs

Prerequisite: A "C" grade or better in a college level composition I course and WRITING LEVEL 2 or permission of instructor. Examines, through an interdisciplinary approach, the literature, film, music and other types of media of 1960s America and explores their interrelationships with history, psychology, sociology and philosophy to discover the causes and effects of the upheaval of the era. Discusses the social movements of the era and the changes in the way democracy has been perceived. Credit may be earned in IHU 295W or SSI 295W but not both. (45-0)

Surgical Technology

ST 100 Introduction to Health Care Service 3 Sem Hrs

Prerequisite: BIO 152 with a grade of "C" or better. Presents the history of medicine, epidemiological methods, and current problems and trends in the health care system. Discusses selected global health care issues. Includes professional, legal, and ethical aspects of a multidisciplinary care system. (45-0)

ST 207 Pharmacology in the Operating Room 2 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 210, ST 220, ST 230, and ST 240. Introduces anesthetic agents and other drugs commonly used in the perioperative setting: their uses, methods of administration, physiologic effects, and hazards or untoward effects. Credit may be used in ST 107 or ST 207 but not in both. (30-0)

ST 210 The Surgical Patient 2 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 207, ST 220, ST 230, ST 240. Introduces basic concepts of operative patient care, such as preparation of a patient for surgery, patient transportation, surgical incisions, wound healing, operative records, special procedures in the operating room, and the legal, moral and ethical responsibilities of surgical care. Credit may be earned in ST 110 or ST 210 but not in both. (30-0)

ST 220 Fundamentals of Surgical Technology 6 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 207, ST 210, ST 230, and ST 240. Demonstrates fundamental principles of operating room function: roles of surgical team members, sterilization and disinfection methods, aseptic technique, surgical instruments, sutures and equipment, electrical safety, patient positioning and preparation, draping the sterile field, and care of supplies. Develops beginning technical skills through laboratory practice; later, operating room observational experiences are provided. Credit may be earned in ST 120 or ST 220 but not in both. (45-120)

ST 230 Surgical Anatomy 4 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 207, ST 210, ST 220, and ST 240. Presents comprehensive regional study of human anatomy as encountered during surgery. Provides the basis for studies of surgical pathology, operative procedures and practical skills of surgical patient care. Credit may be earned in ST 130 or ST 230 but not in both. (45- 45)

ST 240 Operative Procedures 4 Sem Hrs

Prerequisites: Admission to the Surgical Technology program and concurrent enrollment in ST 207, ST 210, ST 220, and ST 230. Studies selected commonly-performed types of surgical procedures. Discusses the pathology leading to surgical invention, the purposes of the surgery, problems which may arise, and the consequences of the surgery for the patient, in addition to the basic techniques utilized during the procedure and any special instrumentation and supplies. Credit may be earned in ST 140 or ST 240 but not in both. (60-0)

ST 250 Clinical Externship 12 Sem Hrs

Prerequisites: ST 207, ST 210, ST 220, ST 230, ST 240, each with a minimum C (2.0) grade, and consent of the Program Coordinator. Gains supervised clinical experience in hospital operating room suites. Evaluates each student's progress in the theoretical, behavioral, and practical application of concepts of surgical technology. Credit may be earned in ST 200 or ST 250 but not in both. (0-540)

ST 251W Operating Room Seminar 3 Sem Hrs

Prerequisite: ST 207, ST 210, ST 220, ST 230, and ST 240, each with a minimum "C" (2.0) grade, and consent of the Program Coordinator. Discusses patient-monitoring devices and diagnostic tests, abnormalities and correlations with surgical patient conditions, and surgery for traumatic injuries. Includes discussion of students' clinical experiences, the professional role of the Surgical Technologist, general review, and assigned research studies. Credit may be earned in ST 201 or ST 251 but not in both. (45-0)

ST 290-299 Special Projects in Surgical Technology**Technical Trades Interdisciplinary****TTI 100W Introduction to Sustainability 3 Sem Hrs**

Prerequisite: READING LEVEL 2 or WRITING LEVEL 2. Explores the many facets of sustainability. Investigates how social, economic, and environmental activities shape all aspects of our planet. Develops sustainability literacy by studying, in a multidisciplinary framework, the interdependence of humans and the environment within historical and current contexts. Explores the working definition of sustainability and relationships among social, economic and environmental factors. (45-0)

TTI 101 Exploring Careers in Technology, Trades and Manufacturing 2 Sem Hrs

Emphasizes career education in the Technical, Trades and Manufacturing disciplines including opportunities, wages, working conditions, and curriculum. Includes hands-on projects in each of the disciplines. (15-15)

TTI 110 Sustainable Building Principles 2 Sem Hrs

Discusses sustainable (green) building concepts including rating systems such as LEED for Homes and NAHB Model GREEN Home Building. Follows green building from design and site selection to the finishes used, with special emphasis on current case studies, the economics of green building, benefits and barriers, and sources of information. (30-0)

TTI 120 Energy Auditing and Weatherization 3 Sem Hrs

Provides training in the principles of energy auditing and weatherization inspection. Covers the principles of energy, energy and the building shell, energy auditing, air leakage, insulation, windows and doors, heating and cooling systems, indoor air quality, lighting and appliances, and water heating. Provides training to conduct energy audits and use this data to form a cost effective weatherization plan. Begins steps in acquiring knowledge for those considering energy auditing certification. (35-10)

TTI 200 Academic Sustainability Travel 2 Sem Hrs

Includes 12 hours of on-campus instruction and 18 hours of academic travel at the determined location. Gains knowledge of the location prior to departure with the objective of developing a sustainability project. Presents final project to an applicable professional body after completion of travel. An honors option may be possible. (12-18)

TTI 290 Introduction to Agriculture 2 Sem Hrs

Explores the agricultural industry from a historical and modern day perspective. Investigates the broad range of career opportunities in agriculture in the local, regional, and global environment. Explores ethical issues in agriculture including the environment and sustainability. (30-0)

TTI 290-299 Special Projects in Technical Trades Interdisciplinary**Welding Engineering Technology****WELD 101 Exploratory Oxy-Fuel Welding and Cutting 1 Sem Hr**

Addresses safety in the use of oxy-fuel gas equipment and equipment set-up. Explores oxy-fuel welding and brazing of flat strips 1/8" or less in thickness, and cutting plate in laboratory experience. Intended for non-welding majors. (10-5)

WELD 102 Exploratory Shielded Metal Arc Welding 1 Sem Hr

Addresses safety in arc welding, welding terms and definitions and electrode selection. Includes striking an arc and running boards. (10-5)

WELD 103 Introduction to Plasma, Carbon Arc, and Fuel Gas Cutting 3 Sem Hrs

Addresses safety in use of equipment for oxy-fuel gas welding and cutting, and equipment set-up. Include oxy-fuel welding of flat strips 1/8" or less in thickness, and cutting, beveling, and piercing plate and pipe in laboratory experience. Credit may be earned in one of the following courses WELD 103, SKWL 103, or SKWL 101 but not in more than one. (30-15)

WELD 104 Introduction to Shielded Metal Arc Welding 3 Sem Hrs

Addresses safety in arc welding, welding terms and definitions, electrode selection, and welding joints. Includes striking an arc, running beads, pad welding, and fillet welds in lab. Credit may be earned in either WELD 104 or SKWL 104 but not both. (30-15)

WELD 106 Exploratory Gas Tungsten Arc Welding 1 Sem Hr

Discuss general safety, Gas Tungsten Arc Welding (GTAW) safety, welding terms and definitions, filler metal, electrode and gas selection. Includes laboratory exercises in starting an arc and running bead on plate. (10-5)

WELD 108 Exploratory Gas Metal Arc Welding 1 Sem Hr

Discusses general safety, Gas Metal Arc Welding (GMAW) safety, welding terms and definitions, electrode and gas selection. Includes laboratory exercises in starting an arc and running beads. (10-5)

WELD 114W Intermediate Shielded Metal Arc Welding 8 Sem Hrs

Discusses Shielded Metal Arc Welding (SMAW) safety, welding terms and definitions, welding electronics, and welding joints. Includes laboratory exercises in groove welds in fixed positions. (60-60)

WELD 120 Beginning Industrial Blueprint Reading 2 Sem Hrs

Includes manipulation of basic fractions and decimals as applied to the reading of blueprints, reading measuring instruments, basic geometric figures, drafting and blueprinting procedures, basic orthographic projection auxiliary and sectional views, detail and assembly drawings, dimensioning and tolerances, title block, change block, list of materials, and notes. Credit may be earned in WELD 120 or DRF 120 but not both. (30-0)

WELD 122 Blueprint Reading for Welders and Fabricators 2 Sem Hrs

Prerequisite: WELD 120 or DRF 120 or DRF 121 or SKDR 101. Applies principles specifically designed for welders and fabricators working with welding drawings. Interprets basic blueprint information, orthographic projection, assembly drawings, and geometric tolerancing. Places emphasis on welding symbols and welding drawings. Credit may be earned in WELD 122 or DRF 122 but not both. (30-0)

WELD 220 Weld Qualification-Plate 4 Sem Hrs

Prerequisites: WELD 114 and WELD 235 with a "C" (2.0) in each class or better. Teaches welding safety, welding terms and definitions, welding electronics, and AWS welder performance testing procedures. Includes qualification tests in the 3G and 4G positions as laboratory exercises. (15-45)

WELD 224W Advanced Shielded Metal Arc Welding 8 Sem Hrs

Prerequisite: WELD 114 with a C (2.0) average. Discusses Shielded Metal Arc Welding (SMAW) safety, nominal pipe size and thickness standards, and welding joints. Includes laboratory exercises in groove welds on pipe in fixed positions. (60-60)

WELD 226W Gas Tungsten Arc Welding 8 Sem Hrs

Discusses general safety, Gas Tungsten Arc Welding (GTAW) safety, welding terms and definitions, filler metal, electrode and gas selection, nominal pipe size and thickness standards, and welding joints. Includes laboratory exercises in starting an arc, running beads, pad welding, and groove welds on plate and pipe in fixed positions. (60-60)

WELD 235W Gas Metal Arc Welding 8 Sem Hrs

Discusses general safety, Gas Metal Arc Welding (GMAW) safety, welding terms and definitions, electrode and gas selection, nominal pipe size and thickness standards, and welding joints. Includes laboratory exercises in starting an arc, running beads, pad welding, and groove welds on plate and pipe in fixed positions. (60-60)

WELD 290-299 Sem Hr Special Projects in Welding

Water Environment Technology

WET 110 Water Treatment Technologies 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Studies conventional water treatment processes. Includes preliminary treatment, coagulation and flocculation, sedimentation and clarification, filtration, and disinfection. Includes tours of municipal water treatment facilities and related field discussions. Credit may be earned in WWT 110 or WET 110, but not in both. (45-0)

WET 112 Wastewater Treatment Technology 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2. Provides an introduction to the causes of water pollution, the reasons for treating polluted waters and the fundamentals of wastewater treatment. Studies the basic principles of treatment plant operation and the processes commonly used in pollution control facilities. Investigates terms, mathematics and problem solving techniques commonly used by wastewater treatment personnel. Credit may be earned in WWT 112 or WET 112, but not in both. (45-0)

WET 210 Advanced Wastewater Treatment Technologies 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, and WET 112, or permission from instructor. Discusses wastewater treatment technologies beyond conventional processes. Includes the processes and techniques commonly used for advanced wastewater treatment, disinfection, solids stabilization and disposal, nutrient reduction and toxics removal. Includes field tours and discussion of safety and health, sampling procedures, record keeping, data preparation and report writing, and analytical procedures used to determine optimal plant operation and compliance with regulatory requirements. (45-0)

WET 212 Advanced Water Treatment Technologies 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, and WET 110, or permission of instructor. Considers drinking water treatment technologies beyond conventional processes. Includes softening, ion exchange, activated carbon absorption, aeration, air stripping, and membrane processes. Includes participation in field tours and discussions on safety and health, sampling procedures, record keeping, data preparation, report writing and the analytical procedures used to determine and measure drinking water quality. (45-0)

WET 215 Water Quality Analysis And Wet Instrumentation 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, and WET 110 and WET 112 and CHM 105 (or CHM 111), or permission of the instructor. Investigates conventional water and wastewater laboratory test procedures, with particular emphasis on those analytical techniques that require an understanding and practical use of laboratory instrumentation. Water Quality Lab tests include BOD, TSS, temperature, DO, pH, conductivity, TDS, total and volatile solids, alkalinity, TRC, and others common to the daily operation of both drinking water and wastewater plants; includes discussions of basic stream ecology and applied environmental science principles. Instrumentation Lab includes the use of pH, millivolt and specific ion meters and probes and an introduction to Spectrophotometry, atomic absorption (AA), and gas chromatography/mass spectrometry (GC/MS). Includes field tours of municipal water and wastewater treatment facility labs and related field study discussions. (30-30)

WET 220 Water Microbiology 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, and WET 210 and WET 212 and WET 215, or permission from instructor. Investigates more advanced water quality analytical techniques and the microbiology of water, including microscopic examination and identification of microorganisms commonly found in water supplies, water and wastewater treatment processes and polluted bodies of water. Water Quality Analysis lab work involves more advanced analytical procedures to determine nutrients, heavy metals and toxic materials. Focuses on lab safety and health, proper lab technique, representative sampling procedures, record keeping, data preparation and handling, and report writing. Continues field studies and analysis using Atomic Absorption and/or Gas Chromatography/Mass Spectrometer instruments. Includes lab work involving organisms commonly found in water and wastewater samples and with specific bacteriological analytical techniques. (30-30)

WET 230 Water/Wastewater Utility Management 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2, and WET 110 and WET 112, or permission of instructor. Investigates, in depth, the management elements of planning, organizing, staffing, directing and controlling as they relate to the management, supervision and administration of Water and Wastewater facilities. Presents management styles, problem recognition and problem solving techniques, budget and report preparation activities, federal and state regulatory issues, employee/employer (labor/management) relations and leadership topics. (45-0)

WET 240 Applied Hydraulics 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, or permission of instructor. Studies applied hydraulic principles utilized in water distribution and wastewater collection systems. Includes pumpage, headloss, piping, valving, metering, cross connection control, storage, corrosion, and an introduction to hydraulic modeling. Discusses the principles of force, pressure, hydraulic grade line, and pump curves. Includes tours of municipal/industrial water pump stations and storage reservoirs and related field discussions. Credit may be earned in WWT 240 or WET 240, but not in both. (45-0)

WET 244 Water/Wastewater Utility Equipment Maintenance 3 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2, and WET 110 (or WET 112). Provides the student with basic knowledge of mechanical equipment and repair techniques used in both water and wastewater facilities. Uses shop drawings and blueprints during disassembly and reassembly of a variety of mechanical devices. Studies pumps, valves, piping systems, and chlorination equipment. Credit may be earned in WWT 244 or WET 244, but not in both. (45-0)

WET 246 Water/Wastewater Utility Electrical Maintenance 2 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 2, and WET 110 (or WET 112). Studies basic electricity and instrumentation utilized in water and wastewater treatment facilities. Emphasizes the use of testing equipment to troubleshoot electrical and instrumental failures, maintenance problems, and evaluation of equipment performance. Includes discussion of energy conservation methods. Credit may be earned in WWT 246 or WET 246, but not in both. (30-0)

WET 265 Practicum In Water/Wastewater Treatment 4 Sem Hrs

Prerequisites: READING LEVEL 2 and WRITING LEVEL 2 and MATH LEVEL 6, and WET 210 and WET 212 and WET 215 and WET 244 and WET 246, each with a minimum "C" (2.0) grade, and must be taken during final semester with permission of program director. Provides opportunities to perform technical procedures through structured field experience in water and wastewater treatment plants. Emphasizes gaining experience under plant managers and operating personnel with goal of developing organizational skills and responsibility necessary for entry-level employment. Uses rotation through assigned areas of experience in water treatment for 160 hours and continuous experience in wastewater treatment for 160 hours of in-plant services for total of 320 hours minimum required. Credit may be earned in WWT 265 or WET 265, but not in both. (0-320 OJT)

WET 290-299 Special Projects in Water Environment Technology**Writing****WRT 090 Introduction to Academic Writing 4 Sem Hrs**

Prerequisite: WRITING LEVEL 1. Provides those who are not yet prepared for academic work in the regular composition sequence (ENG 111A, ENG 111, ENG 112, or OAT 150, OAT 151, OAT 152) with opportunity to improve their writing skills in an interactive and collaborative setting. Includes practice of personal and academic writing with special attention given to individual needs, which may include organization, sentence structure and variety, correct usage, and vocabulary development. Practices active reading strategies to understand, interpret, and apply information from reading. Does not earn credit towards graduation. Must earn a grade of "C" or better in WRT 090 for progression to the next level. Credit may be earned in ENG 090 or WRT 090 but not both. (60-15)

WRT 098 Preparation for College Writing 3 Sem Hrs

Prerequisite: WRITING LEVEL 2. Provides those who are not yet prepared for academic work in the regular composition sequence (ENG 111A, ENG 111, ENG 112 or OAT 150, 151, 152) with opportunity to improve their writing skills in an interactive and collaborative setting. Includes practice with personal and academic writing. Does not earn credit for graduation. Credit may be earned in ENG 098 or WRT 098 but not both. (45-0)

Wind Turbine Technology**WTT 100 Introduction to Wind Energy 3 Sem Hrs**

Prerequisite: MATH LEVEL 6. Introduces students to the fundamental concepts of turning energy from the wind into electricity. Explores the history and projected future of producing energy from the wind. Identifies the various scales of wind turbines, design types and requirements, and their major subcomponents. Performs a general analysis of sites where wind turbine installations are developing, along with analyzing Federal and State policies regarding the production of power from large and small-scale wind turbines. (45-0)

WTT 110 Climb Safety and Rescue Safety Training 2 Sem Hrs

Prerequisite: MATH LEVEL 6 and LW 223W. Identifies industry safety standards and regulatory requirements for fall hazards associated with wind turbine maintenance activities. Identifies the function and use of basic fall protection equipment and also selects, inspects, assembles, and uses fall protection and rescue equipment. Upon completion of this course, participants will be capable of using a planned approach to tower climbing and rescues using state-of-the-art techniques and equipment. (15-15)

References



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Associate Professor of Chemistry
B.S. Central Michigan University
M.S. Pennsylvania State University

ALEXANDER, Janet
Professor of English
B.A. Saginaw Valley State University
M.A. Central Michigan University

ALFORD, Bethany
Coordinator of Veteran Services
A.A. Delta College
B.A. Saginaw Valley State University

ALLEN, Michele
LLIC Office & Testing Center Manager
A.B.S. Delta College

ALLEN, Timothy
Associate Professor of Math & Computer Science
B.S.; M.A. Central Michigan University

AMES, Amy
Corporate Services-MI Works! Business Services Rep
B.B.A. Baker College

ANDERSON, Emily
Admissions Recruiter
B.A.A. Central Michigan University

ANDRES, Edward
Facilities Planning Assistant
A.A.S. Delta College

APPOLD, Melissa
Associate Professor of Dental Assisting
B.A. Spring Arbor University
C.T. Delta College

AUSTIN, Clinton
Coordinator Ricker Center
A.A. Delta College

AYALA, Eva
Corporate Services-Employment Services Advisor
A.B.S. Delta College

BAILEY, David
Professor of Biology
B.A. Hiram College-OH
Ph.D Case Western Reserve University-OH

BAILEY, John
Corporate Services- MI Works! Business Services Rep
B.S. Central Michigan University

BAIR, Andrea
Instructor of Geology
B.S. Michigan State University
Ph.D University Of Nebraska-Lincoln

BAKER, David
Associate Professor of Chemistry
B.S.; Ph.D University Of Leicester
M.S. University Of Toledo-OH

BAKER, Wendy
Professor of Biology
B.A. Gordon College
M.A. Western Michigan University

BALAN, Aurelian
Associate Professor of Physics
B.A.; B.M. New York State University

M.S. Central Michigan University

BALLOR, Cynthia
Assistant Professor of Sonography
A.A.S. Ferris State University

BARBER, Connie
Assistant Professor of Computer Science & Information Technology
A.B.S. Delta College
B.B.A. Saginaw Valley State University
M.A. Central Michigan University

BARBER, Peggy
Professor of Lifelong Wellness
B.S. Northern Michigan University
M.A. Central Michigan University

BARBIER, Stuart
Professor of English
B.A. Albion College
M.A.; Ph.D Michigan State University

BASKIND, David
Professor of Psychology
B.A. Miami University-OH
M.A.; Ph.D Bowling Green State University-OH

BATTINKOFF, Robert
Director of Public Safety
A.B.S. Lansing Community College
B.A. University Of Michigan-Flint

BEASECKER, Denise
Instructor of Nursing
M.S. Central Michigan University
M.S. Saginaw Valley State University

BEAUCHAMP, Elizabeth
Assistant Professor of Office Administration & Technology
B.S. Central Michigan University
M.A. Eastern Michigan University

BECKMAN, Eric
Associate Professor of Economics
B.S.; M.A. Central Michigan University

BENNETT, Thomas
Broadcasting General Manager
B.S. Grand Valley State University
M.A. Saginaw Valley State University

BERNTHAL, Sharon
Associate Professor of English
B.S.; M.A. Eastern Michigan University

BLADECKI, Meredith
Assistant Professor of Nursing
B.S.N. Saginaw Valley State University
M.S.N. Michigan State University

BLECKE, Nathan
Professor of Math & Computer Science
B.A. Western Michigan University
M.A. Central Michigan University

BLEDSON, David
Associate Professor of Residential Construction
B.S. Central Michigan University
M.E. Saginaw Valley State University

BOLDT, Kimberly
Assistant Professor of Sonography
A.A.S. Loma Linda University
B.S. Siena Heights College

BOUDROT, Thomas
Assistant Professor of Political Science
B.S.; M.A. Ball State

BOURASSA, Lindsey Program Specialist A.A. Delta College B.B.A. Northwood University	B.A. University Of Michigan - Ann Arbor M.A. Saginaw Valley State University
BRITTO, Neville Professor of English A.B.S. University Of Nagpur-India A.B.S. University Of Rome-Italy M.A. University Of Michigan - Ann Arbor	CLEGG, Antoinette Associate Professor/Business & Information Technology Division Chair B.A. Western Michigan University M.A. Nova Southeastern University
BRONSTETTER, Michele Team Supervisor A.G.S. Delta College	CLEMENT, Emily Manager of Strategic Partnerships A.A.S. North Central Michigan College B.A.S. Davenport University M.A. Spring Arbor University
BROWN, Loyce Manager of Center for Organizational Success/Equity Officer A.A.; B.S.; M.S. Florida State University	CLORE, Benjamin Assistant Professor of Art B.A. Western Washington University M.F.A. Michigan State University
BROWN, Mark Instructor of English B.A. Idaho State University M.A. Boise State University-ID	COATS, Thomas Assistant Professor of Automotive Service Technology A.A.S. Delta College
BUBLITZ, Kevin Grounds Maintenance Supervisor	COLEMAN, Christine Assistant Professor of Foreign Languages B.A. Siena Heights University M.A. Bowling Green State University-OH
BURCH, Kristine Financial Aid Advisor A.A.S. Delta College	COLENBRANDER, Andrew Associate Professor of English A.A. Citrus College - CA B.A.; M.A. University Of Montana M.A. Central Michigan University
BURDZINSKI, Carrie Assistant Professor of Biology B.S. University Of Western Ontario M.S. Oakland University	CORNELIUS, Kristin Assistant Professor of English B.E. University Of Toledo-OH M.A. Saginaw Valley State University
BURNS, Wendy Associate Professor of Biology B.S. Alabama A&M University Ph.D. Western Michigan University	CORNELL, Paula Professor of Nursing A.A.S. Delta College B.S.N.; M.S.N. Saginaw Valley State University
BUSHONG, Rebecca Learning Resource Manager A.A. Delta College B.S. Saginaw Valley State University	CRAMER, Angela Senior Accounting Manager A.B.S. Delta College B.B.A. Northwood University
CALICE, Melissa Manager of Disability Resources M.S.W. Wayne State University	CRAWFORD, Randal Professor of Art B.A. Philadelphia College Of Art-PA M.A. Cranbrook Academy Of Art
CARLSON, Peter Professor of Math & Computer Science B.S. Michigan Technological University M.A. Central Michigan University	CUNNINGHAM, Tara Fitness & Recreation Center Manager B.A. Saginaw Valley State University
CARROLL, Jennifer Director of Corporate Services B.A. Iowa State University M.A. Saginaw Valley State University	CURLEY, Russell Dean of Enrollment Management M.A. University Of Northern Iowa Ph.D. University Of Iowa
CARTER, Marcie Bridge Program Coordinator B.S.W. Saginaw Valley State University	CURRY, Reva Vice President of Instruction/Learning Services M.A. Augusta College - GA Ph.D. University Of Pennsylvania
CAYLOR, Thomas Coordinator of Foundation Communications & Annual Campaigns B.A. Central Michigan University	CURTIS, Christopher Professor of Psychology B.S.; M.A. Central Michigan University
CHANDRAN, Sheilanthi Specialist-Student Development B.A.; M.A. Foreign Colleges	CUVELIER, Michelle Corporate Services - Employment Services Advisor B.S. University Of Iowa
CHILDS, Wendy Senior Manager of HRIS and Compensation A.A. Delta College B.B.A. Northwood University	DANCER, Melanie Counselor B.S.; M.A. Central Michigan University
CLARK, Pamela Executive Director of Institutional Advancement A.A. Delta College	

DAVIS, Chey Associate Professor of English B.A. Michigan State University M.A. Central Michigan University	DYKHUIZEN, Charles Professor of Psychology A.A. Grand Rapids Community College B.A. Grand Valley State University M.S.; Ph.D Kent State University-OH
DAVIS, Nadine Professor of English B.A. Michigan State University M.A. Saginaw Valley State University	DZURKA, Cheryl Senior Human Resources Generalist A.G.S. Delta College
DEHNE, Kevin Associate Professor of Physics A.A.S. Oakland University B.A.; M.S. Eastern Michigan University	ELDER, Nathan Stem Explorer Coordinator B.A. Bethel College - IN M.A.T. Marygrove College
DENNEY, Dana Assistant Professor of English B.A.; M.A. Michigan State University	ELDRIDGE, Charles TV Traffic Coordinator A.A.S.; A.G.S. Delta College
DEROCHE, Brad Associate Professor of Music B.A. Central Michigan University D.M.A. Eastman School Of Music M.A. Eastern Michigan University	ELIAS, Anne Librarian - Government Documents & Reference B.S. Eastern Michigan University M.S. Wayne State University M.S. Northwest Missouri State University
DEWEY, Elizabeth Specialist - Student Development B.A. Lake Superior State University M.A. Central Michigan University	EVANS, Michael Instructor of History M.A. University Of Reading Ph.D University Of Nottingham
DOLL, Darci Instructor of Philosophy B.S. Central Michigan University M.A. Western Michigan University	EWING, Mark Librarian-Reference B.A.; M.L.S. Wayne State University
DONEGAN, Maureen Assistant Professor of Psychology B.S. University Of Michigan - Ann Arbor M.S. Northern Michigan University	EYRE, Matthew Associate Professor of Mechanical Technology & Design B.S.; M.S. Michigan Technological University M.B.A. Saginaw Valley State University
DORCEY, Julie Major Gifts Advisor B.S. Central Michigan University	FACCIO, Bruce Associate Professor of Welding A.A.S.; B.S. Ferris State University M.E. Saginaw Valley State University
DORE, Ann Assistant Professor of Nursing A.A.S.; B.S.N. University Of Detroit Mercy M.S.N. Saginaw Valley State University	FAIRCHILD, Dawn Associate Professor of Management A.A. Alpena Community College B.B.A. Michigan Technological University M.A. Spring Arbor University Ph.D Capella University
DOUGLAS, Nancy Planetarium and Learning Center Coordinator	FALESKI, Michael Professor of Physics B.S. Rochester Institute Of Technology-NY M.S.; Ph.D Syracuse University
DOYLE, Jeanne Accountant A.A.S. Delta College	FINELLI, Michael Associate Professor/Technical, Trades, & Manufacturing Division Chair A.A.S. Delta College B.S. Ferris State University
DRAKE, Aron Instructor of Biology B.A. Case Western Reserve University-OH M.S. Ohio State University	FINNEY, Martin Career Advisor A.A. Delta College A.A.S. Lansing Community College B.A.; B.S.; M.A. Saginaw Valley State University
DRAKE, Cynthia Associate Professor of Biology B.S. Florida Institute Of Technology M.S. Ohio University	FOGARTY, Julia Professor of English A.A. Ferris State University B.A.; M.A. University Of Oregon Ph.D Michigan State University
DROUSE, Cynthia Associate Professor of Computer Science & Information Technology A.A.S. Mott Community College B.S. Baker College M.S. Ferris State University	FRANCKE, Daniel Assistant Manager B.B.A. Saginaw Valley State University
DULL, Laura Professor/Social Science Division Chair B.A. Central Michigan University M.A.; Ph.D University Of Notre Dame M.T.S. Weston Jesuit School Of Theology	
DUNCAN, Jennifer Assistant Professor of Nursing A.A.S.; B.S.N. University Of Nebraska-Omaha	

<p>FRENCH, Amy Assistant Professor of History A.A. Delta College B.A. University Of Michigan - Ann Arbor M.A. Central Michigan University Ph.D Wayne State University</p> <p>FULMER, Marshall Producer Director A.A. Delta College B.S. Ferris State University</p> <p>GAGNON, Lori Professor/Nursing Coordinator B.S. Saginaw Valley State University M.S. University Of Michigan - Ann Arbor</p> <p>GARLICK, Michael Laboratory Coordinator B.S. Central Michigan University M.A. Ashford University</p> <p>GAUMER, Jennifer Academic Advisor B.S.; M.A. Central Michigan University</p> <p>GILLMAN, Thomas Criminal Justice Training Coordinator</p> <p>GINTER, Alison Campus Life & Student Engagement Coordinator B.S. Michigan State University</p> <p>GITTINS, Jonathan Assistant Professor of Chemistry B.S. Michigan State University M.S. Central Michigan University</p> <p>GIULIANI, Donna Associate Professor of Sociology A.A. Mid Michigan Community College B.S.; M.A. Central Michigan University</p> <p>GLADY-TESCHENDORF, Bethleen Associate Professor of English B.A. University Of Michigan-Flint M.A. Central Michigan University</p> <p>GLEASON, James Assistant Professor of Electronic Media B.S. Northern Michigan University M.A. Saginaw Valley State University</p> <p>GLOWACKI, Michael Assistant Professor of Art B.F.A. Kendall College Of Art And Design M.F.A. Cranbrook Academy Of Art</p> <p>GOETZINGER-PENA, Diane Associate Professor of Office Administration & Technology B.S. Central Michigan University M.S. Texas A&I University</p> <p>GONZALEZ, Judyth Professor of Communication B.A. Oral Roberts University - OK M.A. Southern Nazarene University</p> <p>GOODNOW, Jean President B.A.; M.A.; Ph.D University Of Iowa</p> <p>GOODROW, Ryan Financial Aid Advisor A.B.S. Delta College B.A.S. Saginaw Valley State University</p> <p>GOODSON, Martin Professor of Physics B.S. Stillman College Ed.D. Indiana University M.S. Indiana State University</p>	<p>GOUDAS, Alexandros Assistant Professor of English B.S.; M.A. Minnesota State University</p> <p>GOULD, Terri Registrar A.B.S. Delta College B.B.A. Northwood University M.A. Central Michigan University</p> <p>GOVITZ, Leanne Director of Marketing & Public Information B.A. Michigan State University</p> <p>GRETHER, Cynthia Manager of Food and Printing Services B.B.A. Northwood University</p> <p>GREVE, Christine Corporate Services - Regional Director MI SBTDC A.A. Delta College B.B.A. Saginaw Valley State University M.B.A. Central Michigan University</p> <p>GRIFFIN, Alonzie Admissions Advisor B.A. Eastern Michigan University</p> <p>GUTIERREZ, Diana Director of Counseling, Advising, Career Services A.A. Delta College B.A. Saginaw Valley State University M.A. Central Michigan University</p> <p>HACKBORN, Tari Associate Professor of Computer Aided Design A.A.S. Delta College B.S.; M.A. Central Michigan University</p> <p>HALL, Danielle Manager of Lifelong Learning M.S. Central Michigan University</p> <p>HALL, Rebecca Instructor of Surgical Technology A.A.S.; B.S. Baker College M.S. Union Graduate College</p> <p>HAM, James Professor of Math & Computer Science B.A. Kalamazoo College M.A. Ohio State University</p> <p>HANDLEY-MILLER, Barbara Professor of Communication B.A. Michigan State University M.A. Central Michigan University</p> <p>HARDIN, Jamie Assistant Manager-Production A.A.S. Montcalm Community College</p> <p>HARDING, Mary Coordinator of Scholarships & Special Events A.B.S. Delta College B.A. Northwood University</p> <p>HARKNESS, Bernadette Associate Professor of Chemistry B.S. University Of British Columbia Ph.D McGill University</p> <p>HARRISON, Jill Associate Professor of Child Development B.A. Central Michigan University M.S. East Carolina University-NC</p> <p>HARTSHORNE, Nancy Assistant Professor of Psychology</p>
--	---

B.A.; Ed.D.; M.E. Wichita State University-KS Ph.D Central Michigan University	HOPPE, Renee Associate Professor of Lifelong Wellness A.A.S. Delta College B.S.; M.A. Central Michigan University
HARVEY, Susan Associate Professor of Psychology B.A. Mercyhurst College M.S. North Dakota State University	HORN, Christine Associate Professor of Nursing B.S. Saginaw Valley State University M.S.N. University Of Phoenix
HASKE, Toby Associate Professor of Dental Hygiene A.A.S. Kalamazoo Valley Community College B.S. Western Michigan University M.A. Central Michigan University	HOWELL, Adna Associate Professor of Communication B.A.; M.A. Bob Jones University-SC
HAUSBECK, Christopher Instructor of Physical Therapy B.S. Michigan State University Ph.D Central Michigan University	HOWERY, Claudia Instructional Design Specialist M.S. Capitol College
HEINZ, Timothy Professor of Respiratory Care B.S. Saginaw Valley State University M.A. Central Michigan University	HOWERY, Kristopher Assistant Professor of Computer Science & Information Technology A.A.S. Central Carolina Community College B.S. Strayer University M.S. Capitol College
HELGREN, Heidi Associate Professor of Management B.A. Saginaw Valley State University J.D. Wayne State University	HUBNER, Gregory Associate Professor of Accounting B.A. Michigan State University M.A. University Of Phoenix-AZ
HENDRICKSON, Timothy Assistant Professor of Music B.M. University Of Tennessee D.M.A. University Of Kentucky M.M. University Of Tennessee	HUBNER, Karen Instructor of Accounting B.B.A. Northwood University
HERNANDEZ, Joseph Assistant Professor of Math & Computer Science A.A.S. Delta College B.A. University Of Michigan - Ann Arbor	HUDDY, Andrew Instructor of Geography B.S. Manhattan College M.A. Hunter College-City University Of New York
HERNANDEZ-ALANIZ, Monica Associate Counselor A.G.S. Delta College B.A. Spring Arbor University M.A. Central Michigan University M.A. Western Michigan University	IBANEZ, Monica Corporate Services-MI Works Team Leader A.A. Delta College B.S. Central Michigan University M.P.A. Saginaw Valley State University
HEUGEL, Janis Instructor of Office Administration & Technology B.S.E.; M.B.E. Central Michigan University	JIMENEZ, Kara Associate Professor of Lifelong Wellness B.S.; M.A. Central Michigan University Ph.D Clayton College Of Natural Health
HEYART, Beth Associate Professor of Communication B.S.; Ph.D Oakland University M.A. Ball State Ph.D Wayne State University	JOHNSON, Darrin Manager of Recruitment B.S. University Of Michigan - Ann Arbor M.A.; M.S. Eastern Michigan University
HILL, Denise Associate Professor/English Division Chair B.S. Central Michigan University M.A. Michigan State University	KACZMAREK, Joseph Corporate Services - MI Works! Business Services Rep A.B.S. Delta College M.B.A. Northwood University
HOCK, Matthew Chief Engineer B.S. Grand Valley State University M.S. Central Michigan University	KELCH, Beth Instructor of Math & Computer Science B.A. College Wooster M.S. Florida State University
HOFFMAN, Floyd Manager of Purchasing and Accounts Payable A.A.S. Delta College B.A. Michigan State University	KELLY, Terrance Associate Professor of Residential Construction A.A.S. Delta College B.S. Ferris State University M.A. Central Michigan University
HOISINGTON, Adam Instructor of Biology B.S.; M.S. University Of Michigan - Flint	KEMMER, Bruce Associate Professor of Management B.S. Central Michigan University M.A. Eastern Michigan University
HOLMAN, Lori Midland Center Coordinator A.B.S. Delta College	KENDZIORSKI, Janis Associate Professor of Accounting A.A. Grand Rapids Community College B.A. Michigan State University M.B.A. Central Michigan University

KHALIL, Anthony
Project Manager - Staff Engineer/Architect
B.A. Andrews University

KHEIL, Habib
Professor of Math & Computer Science
B.S.; M.S. Ohio University
M.S. Bradley University

KLACZKIEWICZ, Terri
Financial Aid Advisor
A.A. Delta College
B.A. Saginaw Valley State University

KLEIN, Kimball
Corporate Services - MI Works! Business Services Rep
B.S. Eastern Michigan University

KLEIN, Kimberly
Associate Professor of Political Science
A.A. Delta College
B.A. Oakland University
Ed.D. Ferris State University
M.A. Saginaw Valley State University

KLINGLER, Timothy
Professor of Math & Computer Science
B.A. Capitol University
M.S. Oakland University
M.S. Purdue University

KLOC, Lori
Education Simulation Specialist and Learning Facilitator
A.A.S. Delta College
B.S. Lake Superior State University
M.S. Chamberlain College Of Nursing

KNOCH, Jane
LMS Administrator
A.B.S. Delta College

KONTRANOWSKI, Stephanie
Human Resources - Generalist
A.A.S.; B.S. Ferris State University

KRAYNAK, Addam
Academic Advisor
A.A. Delta College
B.F.A. Saginaw Valley State University

KRUZELL, Candy
Corporate Services - TAA Case Manager
B.B.A. Northwood University

KUEBLER, Jolene
Registrars Office Technologist
A.B.S. Delta College

LACINA, Raymond
Professor of English
B.A. Viterbo University
M.A. Iowa State University
Ph.D. University Of Toronto

LANE, Robert
Corporate Services - Employment Services Advisor
B.A. Saginaw Valley State University

LARKOWSKI, Peter
Associate Professor/Science Division Chair
B.S. Ohio State University
M.S. University Of Michigan - Ann Arbor

LAWRASON, Lisa
Associate Professor of Political Science
A.A.S. North Central Michigan College
B.S. Murray State University-KY
M.A. Central Michigan University

LEE, Eric
Assistant Professor of Technical, Trades, & Manufacturing

B.S. University Of Minnesota
M.B.A. Wilfrid Laurier University
M.S. University Of Virginia
Ph.D. University Of Waterloo

LEGG, David
Assistant Professor of Lifelong Wellness
B.E.; Ed.D.; M.S. University Of Toledo-OH

LEMERAND, Marilyn
Assistant Professor of Communication
B.S. Northern Michigan University
M.A. University Of Wisconsin

LEWIS, Joseph
Associate Professor of English
B.A. Hampton University-VA
M.A. New York University

LICHTMAN, Frances
Assistant Professor of Math & Computer Science
B.A. Michigan State University
M.A. Louisiana State University

LIGHT, Timothy
Telecommunication Service Specialist
A.A.S. Delta College

LIJEWSKI, Jason
Associate Professor of Management
B.S. Ferris State University
Ed.D. Walsh College
M.B.A. Central Michigan University

LOBSIGER-BRADEN, Diane
Assistant Professor of Technical, Trades, & Manufacturing
B.S.E.E. Auburn University
M.S. Michigan State University

LUCZAK, Gregory
Corporate Services-Manager of Finance-Corporate Services & Academics
B.A. Alma College
M.A. University Of Michigan-Flint

LUTZ, Debra
Vice President Business & Finance
A.A. Delta College
B.A. Michigan State University
M.A. Central Michigan University

LUTZ, Phoebe
Professor of Math & Computer Science
B.S. Alma College
M.S. Michigan State University

MAJCHERZAK, Jonathan
Assistant Professor of Lifelong Wellness
B.A. Saginaw Valley State University
M.A. Northern Michigan University

MARCHBANKS, Katie
Instructor of Communication
B.S.; M.A. Central Michigan University

MARCHLEWSKI, Kathie
Assistant Professor of English
A.A. Delta College
B.S. Central Michigan University

MARTENS, Lisa
Associate Director of Financial Aid
A.B.S. Delta College
B.B.A. Northwood University

MCELGUNN, Francis
Corporate Services - Business Consultant
B.A. Hope College

MCINERNEY, Tammy
Associate Professor of Nursing

A.A.S. Delta College
B.S.N. Saginaw Valley State University
D.N.P.; M.S.N. Duke University

MCKINSTRY-BARNARD, Amy
Corporate Services - TAA Case Manager
B.S. Western Michigan University

MCMORRIS, Crystal
Assistant Professor of English
A.A. Muskegon Community College
B.A. Central Michigan University

MCNIER, Staci
Instructor of English
M.A. Saginaw Valley State University

MCQUISTON, Daisy
Associate Professor of Nursing
A.A.S. Delta College
B.S.N. Saginaw Valley State University
M.S. Walden University

MEHL, Shannon
Benefits/HR Specialist
A.A.A. Alpena Community College
B.B.A. Northwood University

MERRILL, Bradley
Admissions Advisor
B.A. Michigan State University
M.S. University Of Scranton

MICHALSKI, Melissa
Instructor of Nursing
B.S.N. Davenport University
D.N.P. Capella University
M.S.N. Walden University

MILITELLO, Donna
Instructor of Nursing
M.S.N. Walden University

MILLER, James
Instructor of Automotive Service Technology
A.A.S. Delta College

MILLER, Jessica
Counselor
B.A.; M.A. Oakland University

MILLER, MaryJo
Associate Professor of Dental Hygiene
B.S. Ferris State University
M.A. University Of Phoenix-AZ

MINARD, Wallace
Instructor of Automotive Service Technology
A.A.; A.A.S. Delta College
B.B.A. Northwood University

MITCHELL, Mark
Associate Professor of Economics
B.A.; M.A.; Ph.D. University Of Notre Dame

MITCHELL, William
Planetarium Show Specialist
A.A. Delta College
B.S. Central Michigan University

MOFFETT, Maggie
Laboratory Coordinator
A.A.S. Mid Michigan Community College
B.S. Central Michigan University

MOOK, David
Corporate Services-Employment Services Advisor
B.S. Michigan State University

MOORE, Marcia
Associate Professor/Humanities Division Chair
B.A. University Of Toledo-OH
M.A. Regent University

Ph.D. Bowling Green State University-OH

MOORE, Monika
Instructor of Geography
B.A. University Of California-Santa Barbara
M.S. Oregon State University

MOORE, Robert
Associate Professor of Political Science
B.S. Ohio University
M.A. University Of Toledo
M.A.; Ph.D. Michigan State University
M.A. Ashland Theological

MORSE, Terry
Associate Professor of Technical, Trades, & Manufacturing
B.S. Ferris State University
M.E. Saginaw Valley State University

MOSQUEDA, Margarita
Vice President of Student and Educational Services
B.A.; M.A. Western Michigan University

MOWLAVI, Masood
Professor of Biology
B.S. Tehran University
M.A. Wayne State University
M.S.; Ph.D. Michigan State University

MURPHY, Carla
Associate Professor of Lifelong Wellness
B.S. Alma College
M.S. Pennsylvania State University

MURPHY, Matthew
TV Operations Producer
A.A.S. Delta College

MURRAY, Mike
Astronomer & Planetarium/Learning Center Manager
B.S. Adams State University

NEAL, John
Multicultural & Diversity Coordinator
B.S. Southern University-LA
M.S. Louisiana State University

NELSON, Kristy
Director of Learning Centers
B.B.A. Davenport University
M.A. University Of Phoenix
M.B.A. Central Michigan University

NEYMEIYER, Robert
Instructor of Refrigeration, Heating & Air Conditioning
A.A. University Of Phoenix
B.A. Ashford University

NICHOLS, Randall
Associate Professor of Math & Computer Science
B.S.; M.A.T. Indiana State University

NIESTER-MIKA, Jennifer
Associate Professor of English
B.S. Michigan State University
M.A. Central Michigan University

NITZ, Kristopher
Assistant Professor of Biology
B.S.; M.S. Michigan Technological University

NOWICKI, Susan
Manager of Business & Auxiliary Services
A.A. Delta College
B.A. Saginaw Valley State University
M.S. Colorado State University

O'CONNOR, Trisha
Professor of English

B.S.; M.A.E. Central Michigan University	A.A. Delta College
O'DEAY, Jeffery	B.B.A. Northwood University
Radio Production Supervisor	M.S. Kettering University
A.A.A. Delta College	
O'LAUGHLIN, Lisa	PRENA, Kelli
Associate Professor of Office Administration & Technology	Assistant Professor of Nursing
B.S.E.; M.A. Central Michigan University	A.A.A. Alpena Community College
	B.S.N. Lake Superior State University
	M.S.N. Grand Valley State University
OLEARY, Terence	
Operations Manager	PRESSLER, Michael
A.A. Delta College	Assistant Professor of Biology
B.A. Saginaw Valley State University	B.S.; M.S. Central Michigan University
PASHAK, Brent	
Instructor of Welding	PROCTOR, James
A.A.S. Delta College	Assistant Professor of Welding
B.S.; M.A. Saginaw Valley State University	B.S. Central Michigan University
	M.E. Saginaw Valley State University
PATTERSON, Tiffany	
Corporate Services - Employment Services Advisor	PRZYBYLSKI, Robert
A.A. Delta College	Producer Director
	A.B.S. Delta College
	B.S. Ferris State University
PECK, Cynthia	
Professor of Chemistry	PRZYGOCKI, Virginia
B.A. Northern Michigan University	Dean of Career Education and Learning Partnerships
M.S. Central Michigan University	B.S. University Of Michigan-Ann Arbor
PERUSKI, David	QUADERER, Steven
Dean of Teaching & Learning	Financial Aid Advisor
B.S.N.; M.S.N. Saginaw Valley State University	B.A. Alma College
M.S.A. Central Michigan University	M.A. Central Michigan University
PETEE, Linda	RAMET, Jean
Sustainability & Risk Management Coordinator	Academic Advisor
A.A.; A.B.S. Delta College	A.A. Delta College
B.A. Northwood University	B.A.; M.A. Saginaw Valley State University
PETERS, Felicia	RAMSEYER, Larry
Professor of Computer Science & Information Technology	Director of Facilities Management
B.S. Morris Brown College-GA	A.A. Delta College
M.S. Southern Polytechnic State University	B.S.; M.A. University Of Michigan-Ann Arbor
PETERSEN, Ryan	RANDALL, Pat
Associate Professor of Political Science	Academic Data Analyst
B.S. Willamette University	B.A. Baker College
M.A. Syracuse University	
PETRIMOUX, Linda	RANDOLPH, Karen
Payroll Manager	Professor of English
	B.A.; M.A. Western Michigan University
PHELPS, Dorian	RAUBE, Michelle
Coordinator - Possible Dream & Youth Development	Athletic Director/Head Trainer
B.B.A. Western Michigan University	B.A. Carthage College
	M.S. Illinois State University
PIECHOWIAK, Timothy	RAUSCHERT, Jeffery
Printing Production Coordinator	Web Content Marketing Coordinator
A.A.S.; C.T. Delta College	B.S. Central Michigan University
PIERCE, Rebecca	REDMAN, David
Instructor of Biology	Professor/Math & Computer Science Division Chair
B.S. Michigan State University	B.S. University Of California-Irvine
M.S. Florida Atlantic University	M.S. University Of Minnesota
PINNER, Myung	REID, Fay
Assistant Professor of Math & Computer Science	Student Finance Manager
B.A. Foreign Colleges	B.S. Central Michigan University
M.A. Oakland University	
PLACKOWSKI, Linda	REIF, LeAnn
Professor of Philosophy	Instructor of Nursing
B.A.; M.A. Michigan State University	B.S.N. Saginaw Valley State University
POWERS, Barbara	RESZKE, Cindy
Bookstore Manager	Associate Professor of Radiological Technology
	A.A.S.; B.S. Ferris State University
	M.A. Central Michigan University
PRATT, Michele	REYES, Cynthia
Manager of Library Programs & Services	Admissions Advisor
B.A. University Of Michigan-Flint	A.A. Delta College
M.I.L.S. Wayne State University	
PREMO, Jason	
Academic Advisor/Career Liaison	

B.A. Saginaw Valley State University M.S.A. Central Michigan University	SCHUENEMAN, Bill Associate Professor of Computer Science & Information Technology B.A. Michigan State University C.T. Delta College M.S. Ferris State University
RICKETTS, Teri Instructor of Nursing M.S.N. Saginaw Valley State University	SCHULTZ, Maureen Laboratory Manager B.S. Saginaw Valley State University M.S. Miami University-OH
RIEDER, Andrew Assistant Professor of Art B.A. North Carolina State University M.F.A. Michigan State University	SCHULTZ, Scott Professor of Physics B.A. Canisius College M.S. North Carolina State University
RIVET, Natascha Associate Professor of Math & Computer Science A.A.S. Delta College B.A. Western Michigan University M.A. Central Michigan University	SEGURA, Daniel Associate Director/International Advising Coordinator B.A. Saginaw Valley State University M.A. Central Michigan University
ROBERSON, Mary Associate Professor of Math & Computer Science B.S.; M.S. University Of Wyoming M.S. Eastern Michigan University	SERBUS, Gwen Business Relations Coordinator A.A. Delta College
ROBERTSON, Mark Professor of Biology B.A. University Of Virginia M.S. Virginia Polytechnic Institute	SHARP, Ronald Professor of Chemistry B.S.; M.S. Central Michigan University
ROEBUCK, Dennis Associate Professor of Computer Science & Information Technology B.A. Saginaw Valley State University M.A. Central Michigan University	SIKA, Elvina Financial Aid Advisor B.S. Michigan State University M.S.A. Central Michigan University
ROMER, Scanlon Professor of Economics B.A. University Of Minnesota M.S. University Of Utah	SMITH, Galvann Lieutenant/Director of Law Enforcement Training B.A. Saginaw Valley State University
ROSHY, Carol Corporate Services-Employment Services Advisor A.B.S. Delta College B.B.A. Northwood University	SMITH, Lauren Assistant Professor of English B.A. Emerson College M.A. Simmons College M.F.A. Bennington College Ph.D University Of Miami-FL
ROSIN, Steven Professor of Math & Computer Science A.A.S. Community College Of The Air Force B.A. Eastern Illinois University M.A. Central Michigan University	SMITH, Pamela Professor of Dental Assisting B.S. Ferris State University M.A. Saginaw Valley State University
RUMMEL, Randall Specialist - Student Development A.A.S. Delta College A.B.S. University Of Michigan - Ann Arbor	SMITH, Sarah Associate Professor of Sociology B.A.; M.A. University Of Toledo-OH
RYAN, Nicole Instructor of Computer Science & Information Technology B.A. Central Michigan University M.A. Saginaw Valley State University	SOUTHWELL, Donald Associate Professor of Computer Science & Information Technology B.S.; M.S. Central Michigan University Ph.D Eastern Michigan University
SABOURIN, Daniel Instructor of Respiratory Care A.A.S. Delta College B.S. University Of Michigan-Flint	SOVIS, Andy Counselor B.S.W. Western Michigan University M.S.W. University Of Michigan - Ann Arbor
SCHAAB, Nancy Associate Professor of Psychology B.S. University Of Pittsburgh M.A.; Ph.D Ohio State University	SPITZ, Mike Professor of Physical Therapy A.A.S. Delta College B.S.; M.S.A. Central Michigan University
SCHLAACK, Ronald Assistant Professor of Physics B.S. Michigan State University M.S. Purdue University	SPREEMAN, Jamie Corporate Services - TAA Case Manager
SCHNEIDER, Harvey Manager-Skill Trades A.A.S. Delta College	STARKEY, Crystal Associate Professor of English A.A. Delta College B.A. Siena Heights College M.A. Central Michigan University Ph.D Wayne State University

STEISS, Susan
Instructor of Sociology
B.A. Grand Valley State University
M.A. Bowling Green State University-OH

STEPANSKI, Amy
Institutional Research Manager
A.A.S. Delta College
B.S. Central Michigan University

STEVENSON, JodiAnn
Associate Professor of English
B.A. University Of Michigan - Ann Arbor
M.A. New Mexico State University
M.F.A. Goddard College

STORM, Alan
Corporate Services - Manager of Development
M.B.A. Northwood University

SULLIVAN, Matthew
Facilities Planner
A.A. Delta College
B.S. University Of Michigan - Ann Arbor

SWARTHOUT, Audra
Associate Professor of Biology
B.S.; M.S. Eastern Michigan University

SYED, Barbara
Instructor of Office Administration & Technology
B.A. Davenport University

SYMONS, Daniel
Corporate Services - Employment Services Advisor
B.A. Alma College

SYRING, Karol
Assistant Professor of Office Administration & Technology
B.S.; M.A. Central Michigan University

SZAFRANSKI, Wendy
Associate Professor of Nursing
B.S.N. Michigan State University
M.S.N. Saginaw Valley State University

TAYLOR, Kathleen
Associate Professor of Dental Hygiene
A.A.S. Mott Community College
B.S.; M.S. University Of Michigan - Flint

TETER, Gregory
Associate Professor of Criminal Justice
B.A.; M.S. University Of Detroit Mercy

THIBO, Sandra
Aquatic Coordinator/Operations Assistant

TORRES, Jesse
Head Athletic Trainer/Strength and Conditioning Coach
B.S. Saginaw Valley State University

TRABALKA, Angela
Assistant Professor of English
B.A.; M.A. Saginaw Valley State University

TRAVERSE, Donovan
Associate Professor/Health & Wellness Division Chair
A.A.S. Delta College
B.S. Michigan State University
M.S. Central Michigan University

TREADWAY, Karen
Manager of the TLC
A.A. Delta College
B.S.; M.A. Western Michigan University

TRUSZKOWSKI, Patrick
Associate Professor of Biology

A.A. Macomb Community College
B.S. Eastern Michigan University
M.A. Wayne State University
M.A.T. Marygrove College

ULLRICH, Elizabeth
Associate Professor of Political Science
B.A. California State University
M.A. Pennsylvania State University

URBANIAK, David
Academic Advisor
A.A. Delta College
B.A. Western Michigan University
M.A. Saginaw Valley State University

URBANO, Charissa
Professor of Biology
B.S. Bowling Green State University - OH
Ed.D.; M.A. Ball State

URSUY, Andrea
Assistant to the President & Director of Institutional Effectiveness
A.A.; A.B.S. Delta College
B.B.A. Northwood University
M.S. Eastern Michigan University

VADER-MCCORMICK, Nancy
Professor of Communication
B.S. Western Michigan University
M.A. Central Michigan University
Ph.D. University Of Florida

VANDE ZANDE, Jeffrey
Professor of English
B.S. Northern Michigan University
M.A. Eastern Illinois University

VANDERLAAN, Ski
Associate Professor of Accounting
B.S. Regis University
M.S. New Mexico State University
Ph.D. Capella University

VANHOUTEN, Jacob
Professor of Biology
A.A.S. Alpena Community College
B.S. Ferris State University
M.S. Central Michigan University

WADE, Trent
Assistant Professor of Foreign Languages
B.A. Grand Valley State University
M.A. University Of Tennessee

WALLS, Morag
Associate Professor of Criminal Justice
B.A.; M.S. Michigan State University

WARD, Zachary
Director of Admissions & Recruitment
B.A.; M.A. Michigan State University

WARNER, Mary
Corporate Services - TAA Case Manager
B.A. Central Michigan University

WATKINS, Debra
CRM Technician
A.B.S. Delta College

WAXMAN, Ellen
Counselor
B.A. Herbert H Lehman College
M.A. Michigan State University

WEBB, Barbara
Director Business Services

A.A. Delta College
B.A.; M.A. Central Michigan University

WELLS, Kimberly
Assistant Professor of Electronic Media
B.S. Eastern Michigan University
M.A. Purdue University

WELLS, Thomas
Associate Professor of Math & Computer Science
B.A.; B.S. Drake University
M.S. Montana State University

WHITAKER, E. Michele
Associate Professor of Criminal Justice
A.A. Delta College
B.A. Saginaw Valley State University
M.A. Central Michigan University

WHITE, Michelle
Manager of Academic Career Experience & Service Learning
A.A.; A.B.S. Delta College
B.B.A. Northwood University

WHITNEY, Shelly
Controller
B.A. Saginaw Valley State University
M.B.A. Central Michigan University

WIESENAUER, Eric
Associate Professor of Math & Computer Science
A.A.S. Delta College
B.S.; M.A. Central Michigan University

WILEY, Sarah
Associate Professor of History
B.A. University Of Alabama
M.A. University Of Montana

WILLMAN-ONSTOTT, Anna
Corporate Services - MI Works! Manager
B.A. Alma College

WILSON, Karen
Professor of Economics
A.A. Delta College
B.A. Saginaw Valley State University
Ed.D. University Of Michigan - Dearborn
M.A. Central Michigan University

WILSON-ROOD, Colleen
Instructor of Sociology
B.S.; M.A. Central Michigan University

WOLF, Kirk
Professor of Philosophy
A.B.S. Albright College
M.A.; Ph.D University Of Kansas

WOOD, Michael
Institutional Research Director
B.A. Tulane University
M.Ap.St; M.A. Louisiana State University

WOOD, Patricia
Laboratory Coordinator
B.S. Northern Michigan University

WORTHING, Ralph
Professor of Psychology
B.S.; M.S. University Of Wisconsin
Ph.D Iowa State University

WOTTA, Carol
Financial Aid Advisor
A.A. Delta College

WYZKIEWICZ, Kevin
Associate Professor of Computer Science & Information Technology
A.A.S. Delta College
B.S.; M.A. Saginaw Valley State University

YEZAK, Joseph
Broadcasting Program Manager
B.S. Northern Michigan University

ZENZEN, Wanda
Associate Professor of Nursing
A.A. Henry Ford Community College
B.S.N.; M.S. University Of Michigan - Ann Arbor
D.N.P. Oakland University

ZIEMAN, Beth
Professor of Nursing
A.A.S.; A.B.S. Delta College
B.S.N. Regents School Of Nursing
M.S.N. Saginaw Valley State University

ZIOLKOWSKI, Lori
Assistant Professor of Management
A.A. Delta College
B.S. Michigan State University
M.B.A. Capella University

ZOMBECK, Alan
Instructor of Chemistry
Ph.D University Of Illinois



Definitions of College Terms

Don't get lost in College jargon. Understand these terms, which generally are common to all colleges, and your academic life will be easier.

Academic Year: September through the following August. Includes the Fall Semester, Winter Semester, and Spring Semester.

Academic Credits: See Credits.

Accredited: Certified by a specific state, regional, or national organization as meeting standards of quality in instruction, staffing, facilities, finances, and policies.

Add: Changing your schedule by adding a course after your initial registration.

Admission: Being accepted by Delta so you can register for courses.

Assessment: Basic skills tests in writing, reading, and math to assist you in selecting courses at the appropriate level. Generally, assessment is required for new students.

Associate Degree: Degree (diploma) granted after successful completion of a program of study which has a minimum of 62 credits.

Audit: Registering for and attending a course, but receiving no grade or credits. Regular tuition and fees must be paid. Audits do not count toward completion of a program or graduation.

Caution: A warning status due to low grades.

Centers: See maps, in this section.

Certificate: Document granted upon successful completion of a program of study which has less than 62 credits.

Concurrent Course: Often referred to as Corequisite or Requisite. A course that must be taken during the same semester as another course is taken. Concurrent courses are listed at the beginning of the course description. See Section VI for Academic Course Descriptions.

Contact Hours: The total hours of lecture and laboratory instruction required for each course.

Corequisite: See Concurrent Course.

Course: A single subject, such as ENG 111, taken for one semester.

Credits: Also referred to as Academic Credits, Credit Hours, and Semester Hours. Each course is assigned a number of credits which generally indicates the number of hours per week the class meets; i.e., a three credit course generally meets three hours each week. Courses with labs and occupational courses, however, generally meet more hours than the number of credits they carry. Tuition and fees are ordinarily charged by credit.

Curriculum: See Program of Study.

Drop: Changing your schedule by dropping a course after your initial registration.

Dual Degree: An associate degree that is earned by completing two specified curricula concurrently. Approved curricula combinations are listed in Section III, Programs, Dual Degrees.

Elective: A course you may elect (choose) to take as opposed to a course you are required to take.

Fees: Special charges for courses or services other than tuition.

Financial Aid: Money received from various sources (grants, loans, scholarships, jobs) to help students with college costs. Most, but not all, forms of aid are based on financial need.

Financial Aid Transcript: A document you are required by federal regulations to have every other college you attended send to the Delta College Financial Aid Office, which lists any federal aid you may have received or states that you received no aid. Required of financial aid recipients before aid can be awarded.

Freshman: Academic student who has earned 29 or fewer credits.

Full-Time Student: Enrolled in 12 or more credits in a semester.

G.E.D. (General Educational Development): A high school equivalency certificate for adults who did not receive the traditional high school diploma. It is earned by passing the national G.E.D. exam, which may be taken through Delta.

General Education: A group of courses in the areas of social science, natural/physical science, communication, and humanities which provide a common and broadly-based body of knowledge.

GPA (Grade Point Average): The GPA is determined by dividing the grade points earned (see definition of grade points) by the number of credits attempted, excluding courses in which you received final grades of "P," "I," "X," "WL," "W," or "NC." The semester GPA includes grades in each semester; the cumulative GPA includes grades from all semesters at Delta.

Grade Dispute: The process available to you if you do not agree with the grade you received in a course. See Section IV, Academic Policies and Information, Disputed Final Grade Policy.

Grade Ombudsman: The staff member who will provide you with information and assistance in understanding and following the Grade Dispute process. For name of person, contact the Senate Office at 686-9297.

Grade Points: Numerical values assigned to a letter grade for a course ("A" = 4 pts., "B" = 3 pts., "C" = 2 pts., "D" = 1 pt., "F" = 0 pts.), which are then multiplied by the number of credits assigned to the course; i.e., a "B" grade for a three credit course would have three grade points x three credits = 9 grade points.

Graduation Requirements: Specific steps you must successfully complete to qualify for a degree or certificate. See Section IV, Academic Policies & Information, Graduation Requirements for details.

Grants: Money provided for educational expenses which does not have to be repaid; also called "gift aid."

In-District Student: A legal resident of Bay, Midland, or Saginaw county as defined by the Delta College residency policy.

Instructor-Initiated Drop: Being dropped from your course by your instructor for either lack of attendance or lack of the required prerequisites.

Loans: Money you borrow from your bank or credit union for educational expenses which must be repaid after you leave school.

MTA: The Michigan Transfer Agreement (MTA) was designed to facilitate the transfer of general education requirements from one institution to another. Students may complete the Michigan Transfer Agreement as part of an Associate degree or as a stand-alone package at a Michigan community college.

Ombudsman: See Grade Ombudsman.

Orientation: A program you will participate in as a new Delta student, which will acquaint you with the College facilities, programs, services, and procedures and during which a counselor will assist you in reviewing your program and selecting your courses.

Out-of-District Student: A legal resident of Michigan, residing in a county other than Bay, Midland, or Saginaw.

Out-of-State Student: A legal resident of a state other than Michigan or of a foreign country.

Part-Time Student: Enrolled in less than 12 credits in a semester.

Prerequisite: Courses which must be successfully completed or requirements which must be met before enrolling in a specific course. Prerequisites are listed at the beginning of the course description. See Section VI for Academic Course Descriptions.

Probation: A warning status due to low grades or improper conduct.

Program of Study: A group of specific courses which you are required to complete successfully in order to qualify for a degree or certificate.

Registration: The time when you enroll in your courses and pay your tuition and fees. See Section II, Enrollment, Registration for details.

Required Course: A course in your program that you must take as opposed to one that you elect (choose) to take.

Requisite: See Concurrent Course

Semester: Generally 15 weeks in length. The three semesters in an academic year at Delta are Fall (late August through December), Winter (January through April), and Spring (May through August, 15 weeks).

Semester Hours: See Credits.

Session: Generally 7 or 7 1/2 weeks in length, which is half the length of a semester.

Service Credits: Credits assigned to non-credit courses. These credits are not applicable to a Delta associate degree or certificate and are not transferable to other colleges.

Sophomore: Academic student who has earned 30 or more credits.

Suspension: Being required to leave Delta College due to a very low grade point average or unacceptable conduct.

Transcript: Your official Delta College record listing all academic courses attempted with grades, credits, and grade points; all transfer credits accepted; and credit awarded by examination or advanced placement; and your cumulative GPA.

Transfer: The official process of moving from attendance at one college or university to attendance at another college or university.

Tuition: The money you pay the college for instruction and services. A dollar amount is assigned to each credit. Tuition is determined by multiplying the dollar amount by the number of credits for which you are registering. In-District, Out-of-District, and Out-of-State tuition rates are different. See www.delta.edu for current tuition rates.



Who to Contact

Area Code is 989

Call Toll-Free from Bay City/Saginaw 686 + Extension
Midland/Auburn 495-4000, Birch Run/Frankenmuth/Reese/Vassar 758-3400

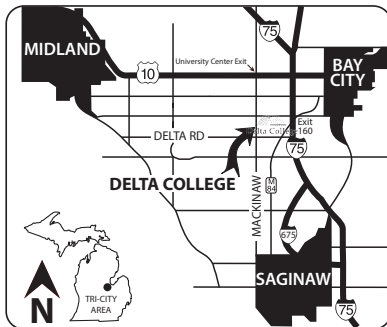
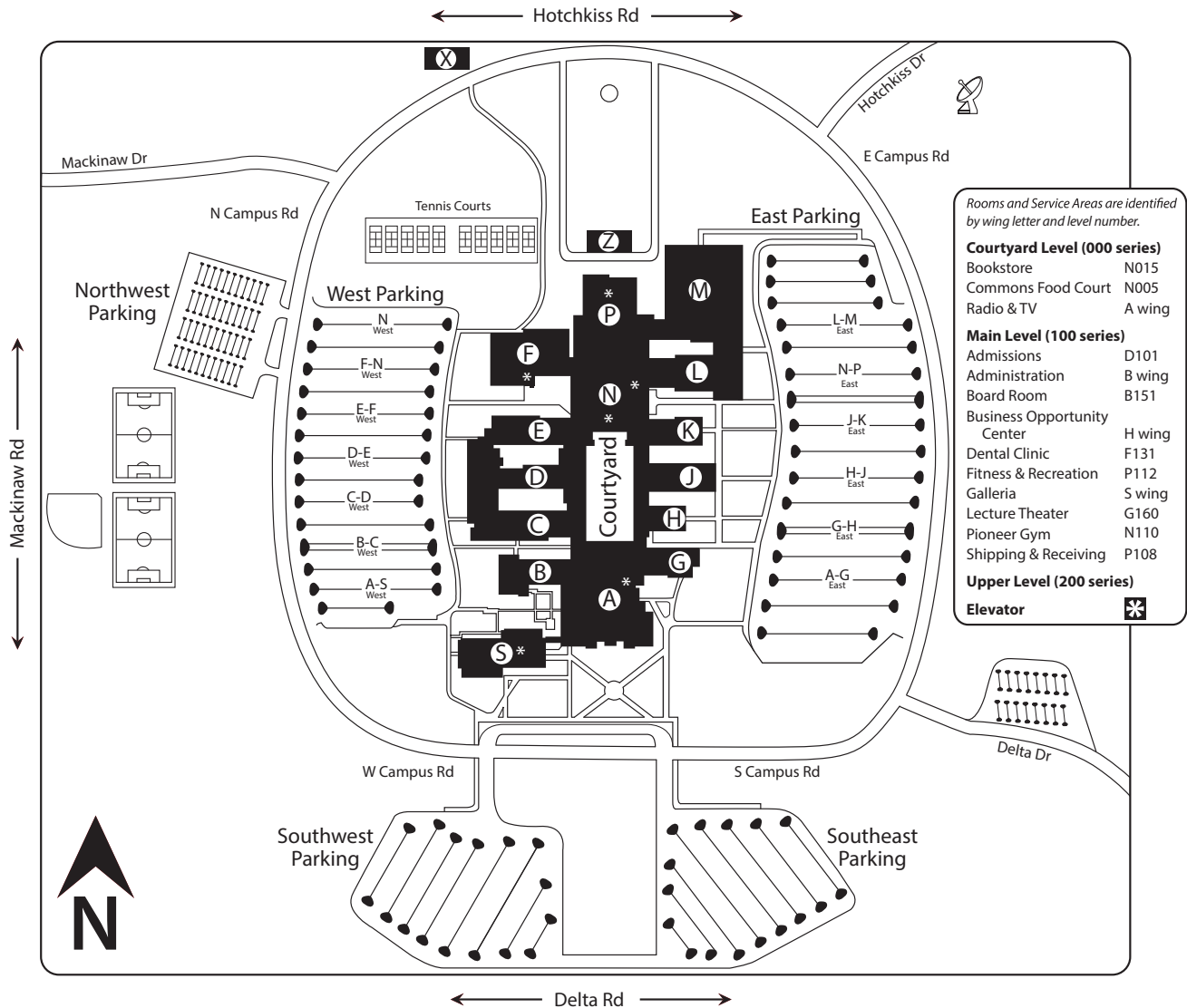
Questions About:	Who to Contact (e-mail)	Office	Extension
Academic Advising	Counseling/Advising (counsel@delta.edu)	D102	9330
Academic Standards	Registrar's Office (regis@delta.edu)	B100	9305
Academic Testing	Testing Center (testingcenter@delta.edu)	A133	9182
Adding Courses	Registrar's Office (regis@delta.edu)	B100	9305
Adjunct Faculty Support	Instructional Support Services (iss@delta.edu)	J102	9515
Admissions	Admissions (admit@delta.edu)	D121	9093
Affirmative Action	Equity Office (equityoffice@delta.edu)	J101	9547
Apprenticeship/Skilled Trades	Skilled Trades (skilledtrades@delta.edu)	M128	9476
Articulations	Articulation Office (artic@delta.edu)	A009-WCL	9070
Assessment/Testing Services	Testing Center (testingcenter@delta.edu)	A133	9182
Athletics, Intercollegiate	Athletic Office (athletics@delta.edu)	D124	9477
Bookstore	Bookstore (bookstore@delta.edu)	N015	9030
Bridge Program for Underprepared Students	Bridge Program (marciacarter@delta.edu)	D102	9163
Broadcasting	Broadcasting (wdcq@delta.edu, wucx@delta.edu)	A034	9362
Bus Schedule (route information)	Bay Metro (www.baymetro.com)	Bay City	894-2900
.....	Saginaw Transit-STARS (www.saginaw-stars.com)	Saginaw	907-4000
Career Information	Career Services (jobplace@delta.edu)	D102	9072
Caution Status	Registrar's Office (regis@delta.edu)	B100	9305
Clubs & Organizations	Student Engagement Office (stuact@delta.edu)	A003-WCL	9865
Alpha Delta Nu-Bet Tau Chapter/Honor Society of the National Organization for Associate Degree			
Nursing (N-OADN)	Daisy McQuiston(daisymcquiston@delta.edu)	F207	9019
Biology Club	Kristopher Nitz (kristophernitz@delta.edu)	F239	9564
Black Student Union	John Neal (johnneal@delta.edu)	A003	9130
Brazilian Jiu Jitsu Team	Sylvia George (slgeorge@delta.edu)	A003	9540
Chemistry Club	Bernadette Harkness (bernadetteharkness@delta.edu)	D167	9267
Chez Les Napoleons (French Club)	Ann DeCorte (anndecorte@delta.edu)	S046	9408
Child Development	Jill Harrison (jillharrison@delta.edu)	A088	9051
Citizens in Action	Lisa Lawrason (lisalawrason@delta.edu)	G122	9509
Collegiate DECA	Lori Ziolkowski (lorizolkowski@delta.edu)	F214	9483
Cross Country Club	Crystal Starkey (crystalstarkey@delta.edu)	A009	9617
Cyber Defense Club	Kris Howery (krishowery@delta.edu)	A070	9098
Delta Argument Club	Tom Wells (thomaswells@delta.edu)	G222	9186
Delta Astronomy Club	Adam VanDyke (adamvandyke@delta.edu)	J102	9515
Delta Fitness Club	Renee Hoppe (reneehoppe@delta.edu)	P167	9561
Delta Night Garden	Mark Brown (markbrown@delta.edu)	S015	9024
Delta College Choral Association	Dr. Tim Hendrickson (timothyhendrickson@delta.edu)	S239	9373
Delta College Military Association	Beth Alford (bethanyalford@delta.edu)	B101	9303
Delta College Student Nurse Association (DCSNA)	Wanda ZenZen (wandazenzen@delta.edu)		
Delta Photo Club	Michael Glowacki (michaelglowacki@delta.edu)	S249	9453
Delta Pre-Pharmacy	David Baker (dbaker@delta.edu)	D151	9257
Dental Assisting Student Society	Pam Smith (pamelsmith@delta.edu)	F219	9565
Dental Hygiene Club	Toby Haske (tobyhaske@delta.edu)	F216	9497
Fibers Designers Anonymus	Sherri Archer (sherriarcher@delta.edu)	S209	9173
Film Club	Mark Brown (markbrown@delta.edu)	S015	9024
Honors Leadership Board	Crystal Starkey (crystalstarkey@delta.edu)	A009	9617
Human Services Student Club	Susan Steiss (suesteiss@delta.edu)	S207	9506
Information Technology & Security Club	Cynthia Drouse (cjdrouse@delta.edu)	A064	9069
InterVarsity Christian Fellowship	Eric Wiensenauer ericwiensenauer@delta.edu)	G205	9761
Mu Omega Delta (Men of Delta)	John Neal (johnneal@delta.edu)	A009	9117
Phi Theta Kappa-Xi Delta Chapter (PTK)	Crystal Starkey (crystalstarkey@delta.edu)	A009	5934
PTA Club	Chris Hausbeck (christopherhausbeck@delta.edu)	F263	9316
SOHL - Society of Hispanic Leaders	Monica Hernandez-Alaniz (monicahernandez@delta.edu)	D126	9324
Sociology in Action	Donna Giuliani (donnagiuliani@delta.edu)	F218	9280
Unison	Nancy Hartshorne (nancyhartshorne@delta.edu)	A084	9048
Youth Democrats of Delta	Kim Klein (kimberlyklein@delta.edu)	G123	9192
Collegiate (Student Newspaper)	Collegiate Office (collegiate@delta.edu)	A004-WCL	9337
Computer Lab	LLIC (library@delta.edu)	A110	9513
Conduct, Rules & Regulations	Vice President of Student Services	B134	9339
Conferences & Special Events	Business Services (busoff@delta.edu)	B116	9036
Co-op & Internships	Academic Career Experience (ace-sl@delta.edu)	A008-WCL	9474
Corporate Services	Corporate Services (info@corpserv.delta.edu)	H Wing	989-758-3602
Counseling/Advising/Career Services	Counseling/Advising (counsel@delta.edu)	D102	9330
Delta's Closet (Career Clothing)	Lori Ziolkowski (lorizolkowski@delta.edu)	D134	9384
Dental Hygiene Clinic	Dental Hygiene Clinic	F140	9469
Disability Resources	Disability Resources (disabilityresources@delta.edu)	D102	9322
Dismissal Status	Registrar's Office (regis@delta.edu)	B100	9305
Disputed Grades	Grade Ombudsman (zacharyward2@delta.edu)	D121	9590
Diversity	Student Diversity Office	A003	9269

Questions About:	Who to Contact (e-mail)	Office	Ext.	Dropping Courses
Registrar's Office (regis@delta.edu)		B100		9305
Early Alert	Marcie Carter (marciecarter@delta.edu)	D102		9163
eLearning	eLearning (elearning@delta.edu)	J102		9401
Emergencies, Illness, or Injury	Public Safety & Training (cops@delta.edu)	N102		9111
Non-Emergency Calls	Public Safety & Training (cops@delta.edu)	N102		9113
Employment (Student)	Career Services (jobplace@delta.edu)	D102		9072
Equity Compliance	Equity Office (equityoffice@delta.edu)	J101		9547
FERPA	Registrar's Office (regis@delta.edu)	B100		9449
Finances (student)	Student Finance Office (finance@delta.edu)	B100		9333
Financial Aid	Financial Aid (finaid@delta.edu)	D101		9080
Fire Science /EMS	Coordinator (firesci@delta.edu)	M128		9020
Fitness and Recreation	Fitness & Recreation Center (fitness@delta.edu)	P110		9026
Food Pantry for Students	Student Food Pantry	A008		9205
Food Services	Food Services (foodservices@delta.edu)	N020		9035
Foundation Office	Foundation Office (foundation@delta.edu)	A013		9224
Grade Ombudsman	Zachary Ward (zacharyward2@delta.edu)	D121		9590
Grades	Registrar's Office (regis@delta.edu)	B100		9305
Graduation, Requirements & Applications	Registrar's Office (regis@delta.edu)	B100		9305
Harassment	Equity Officer (equityoffice@delta.edu)	A002		9269
Honors Program /Honors Leadership Board	Honors Office (honors@delta.edu)	A008-WCL		9091
Incomplete Grades	Course Instructor	—		—
Institutional Advancement	Executive Director	B156		9225
Intercollegiate Sports	Athletics Director (athletics@delta.edu)	D124		9477
International/Intercultural Programs	Academic Career Experience (ace-sl@delta.edu)	A008-WCL		9474
Internet Courses	eLearning (elearning@delta.edu)	J102		9401
Internships	Academic Career Experience (ace-sl@delta.edu)	A008-WCL		9474
Intramural Sports	Intramural Office	N113		9331
Jobs, Part/Full-Time (Student)	Career Services (jobplace@delta.edu)	D102		9074
Judicial/Due Process	Dean of Student & Educational Services	B134		9512
Kids College	Kids College	D101		9185
Library Learning Information Center (LLIC)	Library (library@delta.edu)	A110		9560
	Testing Center (testingcenter@delta.edu)	A133		9182
	Computer lab	A110		9513
	Teaching Learning Center (tlc@delta.edu)	A110		9314
LifeLong Learning Classes	Lifelong Learning Office (lifelonglearning@delta.edu)	H-Wing		9444
Lost and Found	Public Safety & Training (cops@delta.edu)	N102		9113
MI Small Business & Tech Development	MI Small Bus & Tech Devel Center (sbtcd @delta.edu)	H Wing		9597
Midland Center (See Maps in this section)	Midland Center	Midland		495-4010
Multi-Cultural Services	Student Diversity & Inclusion (stuact@delta.edu)	A003		9117
Orientation for New Students	Admissions (admit@delta.edu)	D121		9093
Parking	Public Safety (cops@delta.edu)	N102		9113
Payment Plan (Tuition)	Student Finance Office (finance@delta.edu)	B100		9333
Personal/Career Advising	Counseling/Advising (counsel@delta.edu)	D102		9330
Planetarium & Learning Center (See Maps in this section)	Planetarium (planet@delta.edu)	Bay City		667-2260
Police				
Campus Security	Public Safety & Training (cops@delta.edu)	N102		9113
Jail (Corrections) Academy	Police Academy	N102		9176
Police Academy	Police Academy	N102		9176
Possible Dream Program	Possible Dream Office	A004		9185
Probation Status	Registrar's Office (regis@delta.edu)	B100		9305
Public Information	Marketing & Public Information (leannegovitz@delta.edu)	B155		9490
Records (Student)	Registrar's Office (regis@delta.edu)	B100		9305
Recreation	Fitness & Recreation Center (fitness@delta.edu)	P110		9026
Recycling	Sustainability Office (sustainability@delta.edu)	B163		9209
Registration	Registrar's Office (regis@delta.edu)	B100		9305
Residency Qualifications	Registrar's Office (regis@delta.edu)	B100		9305
Ricker Center (See Maps in this section)	Ricker Center	Saginaw		752-7500
Rights, Student	Dean of Students	B134		9512
Security, Campus	Public Safety & Training (cops@delta.edu)	N102		9113
Service-Learning	Service Learning (ace-sl@delta.edu)	A008-WCL		9474
Skilled Trades, Apprenticeship	Skilled Trades (skilledtrades@delta.edu)	M128		9476
Small Business	MI Small Bus & Tech Devel Center (sbtcd @delta.edu)	H Wing		9597
Sports, Intercollegiate	Athletics Director (athletics@delta.edu)	D124		9477
Sports (Intramural)	Intramural Office	N113		9331
Student Food Pantry	Student Food Pantry	A008		9205
Teaching/Learning Center Services	LLIC Teaching/Learning Center (tlc@delta.edu)	A110		9314
Testing Center	Testing Center (testing center@delta.edu)	A133		9182
Textbooks & Class Supplies	Bookstore (bookstore@delta.edu)	N015		9030
Traffic Regulations & Violations	Public Safety & Training (cops@delta.edu)	N102		9113
Transcript Requests	Registrar's Office (regis@delta.edu)	B100		9305
Transfer Credit Acceptance	Registrar's Office (regis@delta.edu)	B100		9305
Transfer to Another College	Counseling/Advising (counsel@delta.edu)	D102		9330
Transferability of Delta Courses	Counseling/Advising (counsel@delta.edu)	D102		9330
Tutoring	LLIC Teaching/Learning Center (tlc@delta.edu)	A110		9314
Veterans Benefits, Certification & Information	Veterans Services Office (vets@delta.edu)	B100		9465
Volunteer Services	Service Learning (acr-sl@delta.edu)	A008-WCL		9474
Withdrawal from College	Registrar's Office (regis@delta.edu)	B100		9305



Delta College

Delta College Main Campus
1961 Delta Road • University Center, MI • 989-686-9000



From I-75

Take exit 160. Turn south onto M-84.
Travel 1/4 mile to the second traffic light.
Turn west onto Delta Road.
Travel 1-1/4 miles. College is on the right.

From US-10

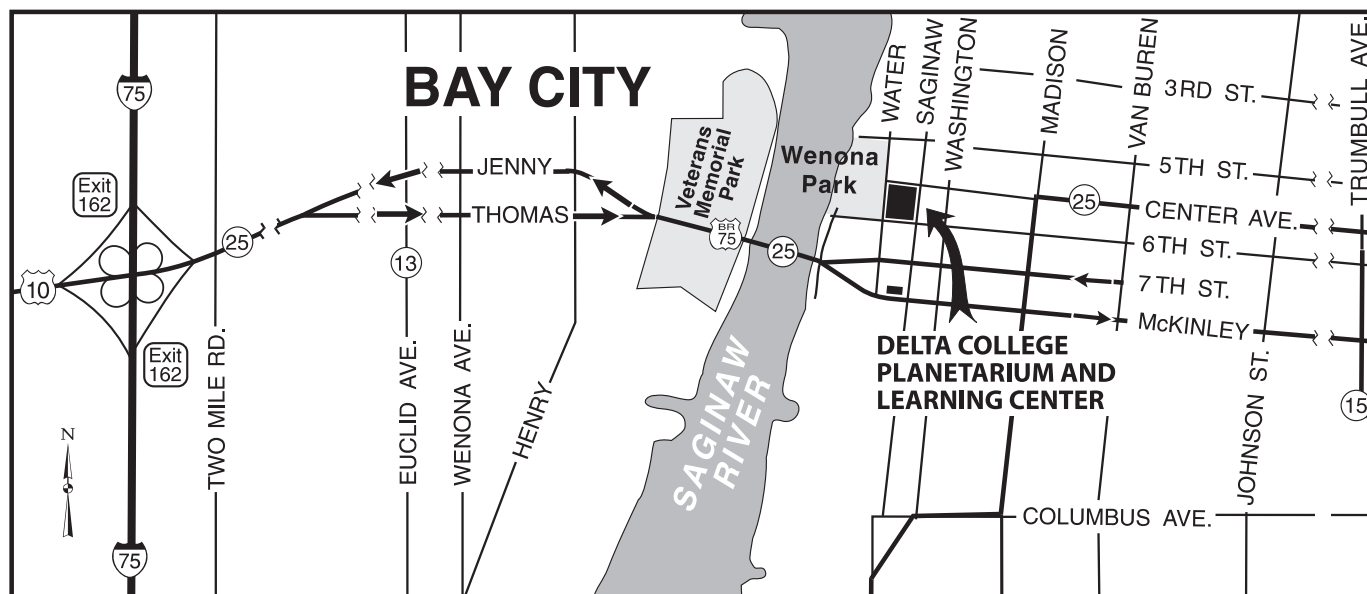
Exit south at Mackinaw Road exit onto Mackinaw Road.
Travel south 2-1/4 miles, past the blinking light at Hotchkiss Road.
College entrance is on the left.

Delta College is an Equal Opportunity Organization, committed to excellence through inclusiveness and diversity. 13-348 (12/14)



Delta College Planetarium & Learning Center

100 Center Avenue • Bay City, MI • 989-667-2260



FROM I-75 (NORTH AND SOUTH)

Take exit 162 to downtown Bay City/M-25.

Continue on one-way Thomas Street.

Cross over river at first stop light.

Turn left at stop light onto Saginaw Street, and go two blocks to 6th Street.

Cars: Turn left onto 6th Street to enter Delta parking lot.

Busses: Turn left onto 6th Street, turn right onto Water Street, and park at Planetarium entrance.

FROM US-10 (AUBURN/MIDLAND AREAS)

US-10 crosses over I-75 and becomes M-25 into Bay City.

Continue on one-way Thomas Street.

Cross over river at first stop light.

Turn left at stop light onto Saginaw Street, and go two blocks to 6th Street.

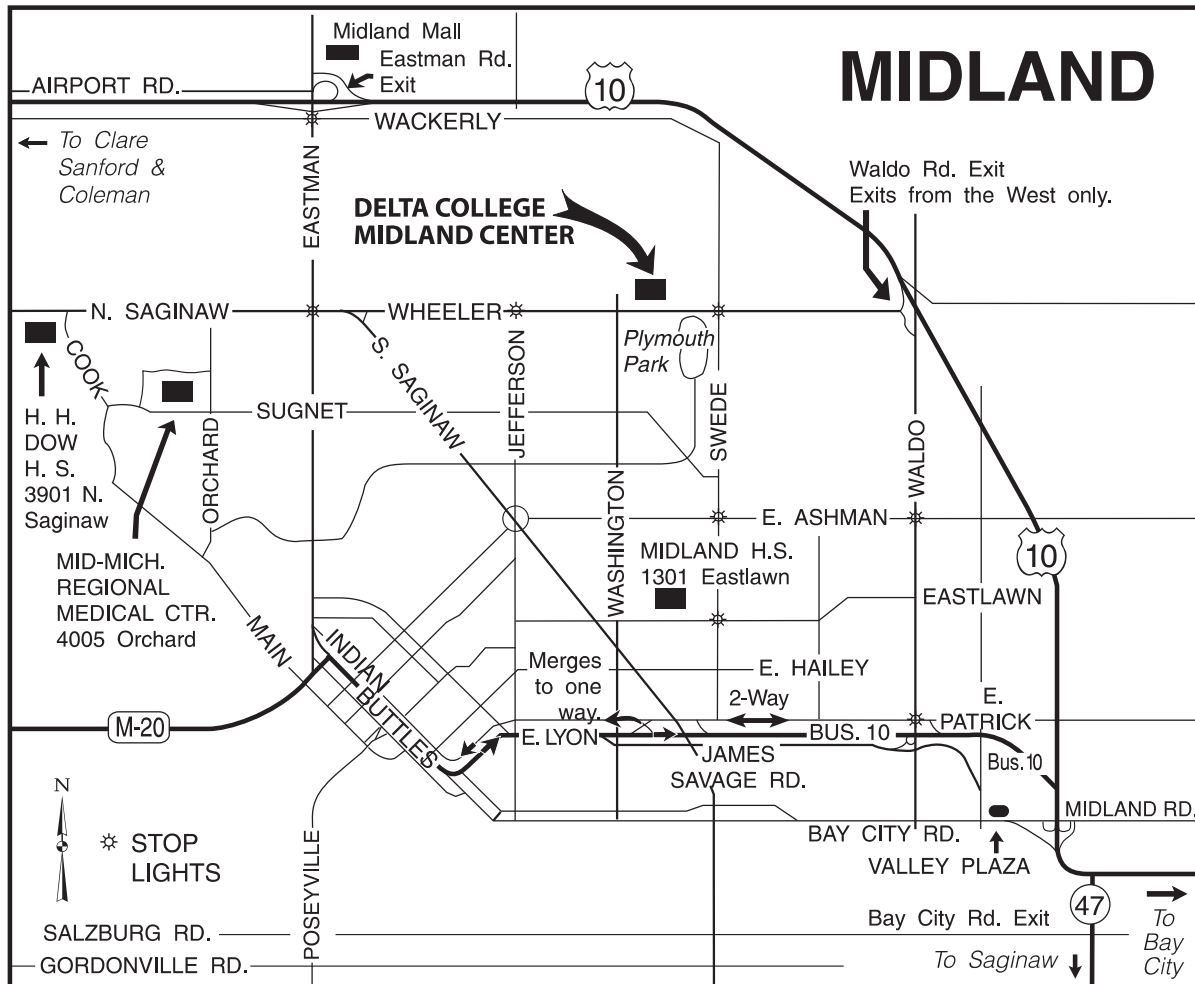
Cars: Turn left onto 6th Street to enter Delta parking lot.

Busses: Turn left onto 6th Street, turn right onto Water Street, and park at Planetarium entrance.



Delta College Midland Center

1025 East Wheeler • Midland, MI • 989-495-4010



Westbound US-10

Toward Midland: Exit left on "Downtown Midland" exit (US-10 business route). There is no westbound exit at Wheeler Road. Exit right onto Waldo Road exit. This ramp exits onto East Patrick Road. Turn left.

Continue two blocks on East Patrick Road to Swede Road. Turn right. Follow Swede Road to Wheeler Road (approx. 2 miles, north). Turn left (approx. 3/4 mile). The **Delta College Midland Center** is on the right.

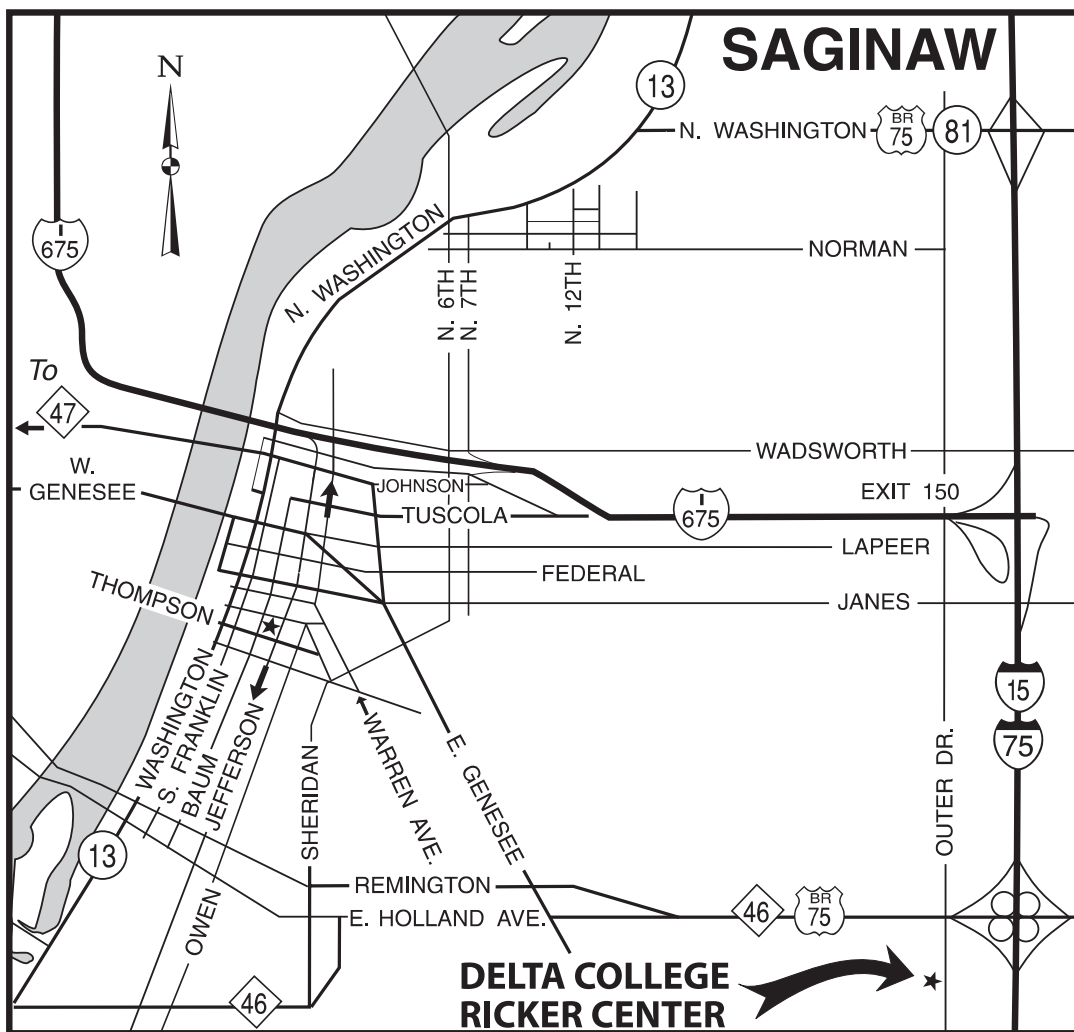
Eastbound US-10

Exit to Wheeler Road via Waldo Road exit.



Delta College Ricker Center

1925 South Outer Drive • Saginaw, MI • 989-752-7500





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